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APPENDIX A

Hazard Mitigation Planning
Committee (HMPC) Meeting
Material and Minutes

ATTACHMENT #1

Internal Planning Team Meeting



Internal Planning Team Meeting March 12, 2024 / 10:00 – 11:30

Attendees

Kerry Topovski, OEM
Joseph Corona, OEM
Alexander Sperling, OEM
Stephanie Arndt, OEM
Mark James, MBI

Key Objectives

- Address areas of improvement from FEMA “Recommended Actions” that were in the 2018 plan review.
- Meet new FEMA guidance requirements – local mitigation planning policy guide FP 206-21-0002 April 19 2022.
- All work identified in the proposal SOW and contract will be completed under the FEMA BRIC award

Plan Layout

- OEM to provide design key that will be used to format plan – colors, fonts and layout is predetermined. Any necessary adjustments (ie map templates) will be provided by the consultant for review and approval.
- Keep table of contents provided on first page of each section – Reformat into box with designated plan color codes.
- Reformat and update per 04, 2022 FEMA Guidance CFR reference at beginning of sections.
- Account for Highland Beach risk assessment and mitigation strategy same as 2018 plan at the end of each hazard or independent – POC is the Mayor Crystal Chissell Mayor.hilandbeachmd@gmail.com

Section Arrangement

- Split Section 3 Background into two sections – Background and Community Profile.
- Move Section 4: Approval and Adoption to end of Plan...Section 10.
- Combine Section 6: Hazard Identification subsection with Section 7: Risk Assessment.
- Addition of new Capabilities Assessment Section – include updated material from 2018 plan and new material. This is recommended to provide the MDEM / FEMA

reviewers familiarity with document layout and specific NFIP requirements – POC is Jay Leshinskie, Floodplain Manager

- Keep high winds separate from tornado hazard – high wind is covered under Hurricane, Tropical Storm and Nor'easter hazard.

Specific Section Suggestions:

- Section 2:
 - Reduce Executive Summary and develop a detailed summary pull out document that can be shared independent of the plan.
- Section 3:
 - Modifying text under Scope of Plan as part of the Mitigation Strategy Goals and move relevant information from government services to Capabilities Section as noted above.
 - Add description of Emergency Services and any other new departments to Section 3.2.3 – 3.2.5 including the Resilience Authority. OEM to provide descriptive text of their roles and responsibilities from existing resources. This information will be included in the Capabilities Section of the plan update.
 - Update and summarize material from SLR Strategic Plan and reference Plan.
 - Add section addressing equity and social vulnerability. Determine what factors to consider and source of data - FEMA recognizes the CDC Social Vulnerability Index. Coordinate with Planning and Zoning for strategy that was used in the Plan2040
 - Determine priority areas of social vulnerability for equity outreach event opportunities. MBI will conduct analysis prior to kickoff meeting to determine potential locations.
 - Expand on the integration analysis that was done for the SLRSP update. Relocate Section 5.5 and Section 5.6 of the Planning Process to the new Capabilities section. This will compile
- Section 5:
 - 2018 plan review indicated that the County did not conduct enough public outreach – One scheduled meeting and one county commissioners meeting. Provide details and outcomes from each HMPC meeting and public meeting to better explain planning process, required steps, and results.
 - Provide separate subsection on public outreach efforts (See details below).
- Section 6:
 - Current list of hazards addressed in 2018 Plan
 - Riverine Flooding
 - Coastal Flooding
 - Dam Failure and Release
 - Hurricane, Tropical Storm and Nor'easter
 - Drought
 - Earthquake

- Extreme Heat
 - Severe Thunderstorm and Hailstorm
 - Severe Winter Storm
 - Tornado
 - Wildfire, Urban Interface Fire
 - Erosion
- Hazard Consideration – The 2018 Plan was limited to a natural hazard analysis. OEM requested that the update include humanmade, technological, and infectious disease hazards – Hazard type will be determined by the HMPC during the Kickoff meeting.
 - Update for High Hazard Dam (HHD) FEMA requirements: The 2018 plan identified no HHDs.
The County has a significant and low hazard dams only no HHD. OEM would like to include Inundation area if available for transport and property impacts.
 - County to provide list of HH dams and EAPs / MBISPD to look into State and National dam databased and compare results.
 - Add historic properties to risk assessment for each hazard.
 - Section 7:
 - Vulnerability analysis will be conducted on all hazards not just Flood, Hurricane, Tornado and Winter Storm.
 - Delete summary of Risk Assessment - Duplicative

Work Schedule and Milestones

- OEM staff has completed all prerequisite FEMA Region 3 Planning trainings.
- OEM has identified contacts and initiated Hazard Mitigation Planning Committee (HMPC) request for assistance.
- OEM has coordinated with FEMA Region 3 on stakeholder invite list and are preparing invites
- HMPC members to attend Kickoff meeting that is anticipate to fall in mid to late April
- Monthly HMPC meeting to be scheduled at April kickoff meeting (8 meetings total - April through November)
- The internal planning Team (OEM/MBI/SPD) meetings will be scheduled every other week or on an as needed basis. The meeting will be scheduled for a ½ hour time slot and will focus on the following items:
 - Plan Development
 - Data Challenges
 - Mitigation Committee
 - Public Outreach Effort
 - Requests and Completion Status
 - Next Week's Action Items
- Recommended Dates and Times
 - Thursday AM/PM
 - Friday AM/PM

Outreach

- OEM would like to utilize the County's website to paste plan updates and schedule and draft material. Want to look at doing website similar to Annapolis site and content.

- OEM PIO is currently working with IT for landing page content.

<https://www.aacounty.org/emergency-management/disaster-mitigation>

Anne Arundel Co Update and Request

- Review Section 3.2 to see if there changes/additions to government structure.
- County owned data sources / maps that were used in Plan 2040 – MBI / SPD to coordinate with Planning and Zoning for that material.
- Share maps and data on google drive – need to get access from mark.james@mbakerintl.com
- Conduct preliminary review of Mitigation Strategies to see who is responsible for actions and status.
- Provide MBI/SPD plan review that was done internally a few years ago.

MBI / SPD Action Items

- Provide County with CDC socially vulnerable data for early outreach and identification of small group meeting location(s).
- Provide update strategic action form to be provided to agencies at kickoff meeting.
- Investigate ways that other communities have established successful elevation projects.

Anne Arundel County Hazard Mitigation Plan
2018 – 2025 Update Questions
March, 12 2024

Layout for Sections and Subsections

- Keep contents provided on first page of each section – Reformat into box with color
 - Agree with recommendation
- Reference CFR at beginning of key sections - needed and is it confusing
 - Agree with recommendation
- Split Section 3 Background into two sections – Background and Community Profile
 - Agree with recommendation
- Move Section 4: Approval and Adoption to end of Plan...Section 10
 - Agree with recommendation
- Combine Section 6: Hazard Identification subsection with Section 7: Risk Assessment
 - Agree with recommendation
- Addition of new Capabilities Assessment Section – include updated material from 2018 plan and new material.
 - Need to review/discuss in more detail
- How did you want to account for hazard impact in Highland Beach – same as 2018 plan, at the end of each hazard or independent
 - Highland Beach will be accounted for in the same manner as the 2018 plan

Suggestions

- **Section 2:**
 - Reduce ES and develop a detailed summary pull out document
 - Agree with recommendation
- **Section 3:**
 - Consider adjusting/deleting Scope of Plan in place of updating goals
 - Need to review/discuss in more detail
 - Add description of Emergency Services and any other new departments to Section 3.2.3 – 3.2.5
 - Need to review/discuss in more detail
 - Update and summarize material from SLR Strategic Plan and reference Plan
 - Agree with recommendation
 - Add section addressing equity and social vulnerability
 - Agree with recommendation
 - Need to review/discuss in more detail
 - Expand on the integration analysis that was done for the SLRSP update. Relocate Section 5.5 and Section 5.6 to new Capabilities Assessment section
 - Need to review/discuss in more detail
- **Section 5:**
 - Provide details and outcomes from each planning stakeholder meetings to better explain planning process, required steps, and results.
 - Agree with recommendation

- Provide separate subsection on public outreach efforts
 - Agree with recommendation
- **Section 6:**
 - Hazard Consideration - Limit hazards to natural or include humanmade/technological hazards - Internal or Committee Decision and consider adding infectious disease
 - Include natural, manmade/technological and infestious disease to list of hazards
 - Suggest including High Wind with Tornado
 - Need to review/discuss in more detail
 - Update for High Hazard Dam (HHD) requirements – 2018 plan no HHD identified
 - Agree with recommendation
 - OEM to provide list of Dams for the 2025 update
- **Section 7:**
 - Vulnerability analysis will be conducted on all hazards not just Flood, Hurricane, Tornado and Winter Storm.
 - Agree with recommendation
 - Delete summary of Risk Assessment – Duplicative
 - Agree with recommendation

Anne Arundel Co Request

- Review Section 3.2 to see if there changes/additions to government structure
 - OEM to review Section 3.2 to identify if any changes/additions to government structure
- Will need County owned data sources / maps that were used in Plan 2040
 - OEM will provide point of contact at the Office of Planning and Zoning for data sources and maps used in Plan 2040
- What methods of outreach and coordination would you like to consider
 - Need to review/discuss in more detail
- How often will planning committee meetings be scheduled – bi weekly?
 - Monthly planning committee meetings are recommended
- Review Mitigation Strategies to see who is responsible for actions and what the status is
 - Updates to the mitigation strategies will be obtained from our partners through our monthly planning committee meetings
- Any steps taken since last plan that were identified in Plan Maintenance Section
 - OEM and our partners will provide actions/steps taken since last plan update during our monthly planning committee meetings

ATTACHMENT #2
HMPC Kickoff Meeting

ANNE ARUNDEL COUNTY
2025 HAZARD MITIGATION PLAN UPDATE




Hazard Mitigation Planning Committee
Kick Off Meeting
April 25, 2024 - 10AM Virtual

2025 Hazard Mitigation Plan Update

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AGENDA

- Welcome and Introductions
- Project Overview
- HMPC Member, Municipal, & Public Participation
- Hazard Updates
- Data Collection Efforts
- Next Steps

2025 Hazard Mitigation Plan Update

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Welcome and Introductions



2025 Hazard Mitigation Plan Update

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- All attendees are currently muted to reduce background noise.
- Submit your questions at any time during the presentation by:
 - Using the Zoom "Chat"
- We will be recording this meeting to share with anyone unable to attend.



2025 Hazard Mitigation Plan Update

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SIGN IN

Participants, please let us know you are here!

Please submit your name and organization by:

1. Using the "Chat" **or**
2. Emailing mark.james@mbakerintl.com

2025 Hazard Mitigation Plan Update

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Project Overview

2025 Hazard Mitigation Plan Update

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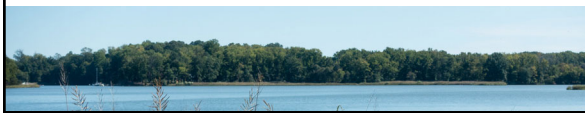
HAZARD MITIGATION DEFINED

- Hazard mitigation is any sustained action taken to reduce or eliminate long-term risk to life and property resulting from natural and human-made hazards.

2025 Hazard Mitigation Plan Update

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- A Hazard Mitigation Plan (HMP) is a community-driven, living document that communities use to reduce their vulnerability to hazards.
- Counties must have a plan to maintain access to mitigation grants. These grants can augment local mitigation activities already being accomplished and can leverage other funding sources.
- New Local Mitigation Planning Policy Guide Effective April 19, 2023, will be used for this plan update.



2025 Hazard Mitigation Plan Update

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PLAN COMPONENTS

Hazard Mitigation Plan
Anne Arundel County, Maryland
2018 Update



- Community Profile
- Planning Process
- Risk Assessment
- Capabilities Assessment
- Mitigation Strategy
- Plan Maintenance
- Plan Adoption

Highlights

- High Hazard Potential Dams (required for HHPD Grant Program)
- MDEM focus Extreme Heat & Wildfire
- Climate Change
- Social Vulnerability & Equity

2025 Hazard Mitigation Plan Update

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HMPC Member, Municipal, & Public Participation

2025 Hazard Mitigation Plan Update

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HAZARD MITIGATION PLANNING COMMITTEE (HMPC) RESPONSIBILITIES**• Meetings**

Kick-Off: Thursday, April 29, 2024

Risk Assessment Meeting - Mid-Point: TBD (2 Hours)

Mitigation Workshop: TBD (3-4 Hours)

• Survey(s) and fillable forms

Hazard Updates

Mitigation Action Status

Capabilities

Mitigation Action Ideas

Project Development & Prioritization

• Assist with public outreach efforts**• Plan review and comments**

2025 Hazard Mitigation Plan Update

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MUNICIPAL PARTICIPATION

The 2018 HMP included the following municipalities:

- City of Annapolis – HMP Adopted June 2023
- *City of Highland Beach

**We must document municipal participation throughout the plan development process.*

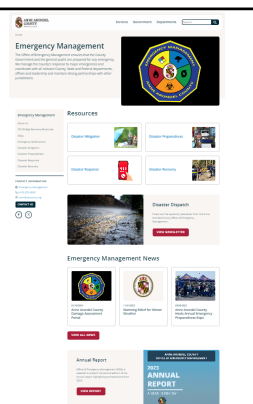


2025 Hazard Mitigation Plan Update

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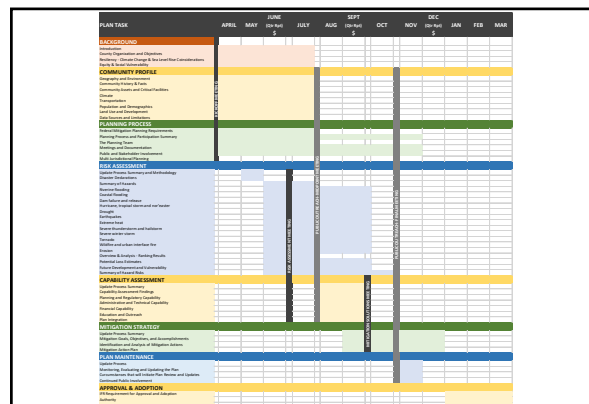
PUBLIC PARTICIPATION

- Online Engagement
 - Public Survey
 - Plan Updates & Materials
 - Press Release
- Mid-Point Public Outreach Meeting
- Final Public Outreach Meeting



2025 Hazard Mitigation Plan Update

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2025 Hazard Mitigation Plan Update

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Hazard Updates



2025 Hazard Mitigation Plan Update

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NATURAL VS NON-NATURAL HAZARDS

Definitions

- **Natural Hazard:** Incidents that results from acts of nature such as a flood or tornado. (Required)
- **Technological:** Hazards that result from failure of man-made systems such as dam failure. (Dam failure required for High Hazard Dams)
- **Threat:** Human caused incidents that result from intentional acts. This could include chemical, biological, or cyber-attacks and other act of terrorism.

2025 Hazard Mitigation Plan Update

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HAZARD ASSESSMENT METHODOLOGY

- Describe Update Process
- Identify New Hazards & Evaluate / Update Previous Hazards
 - Activity #1
- Profile Hazards
- Rank Hazards
- Assess Vulnerability
 - Mid-Point Meeting

2018 HAZARD MITIGATION PLAN
Riverine Flooding
Coastal Flooding
Dam Failure & Release
Drought
Earthquake
Extreme Heat
Hurricane, Tropical Storm & Nor'easter
Severe Thunderstorm & Hailstorm
Severe Winter Storm
Tornado
Wildfire, Urban Interface Fire
Erosion

2025 Hazard Mitigation Plan Update

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HAZARD PROFILING

- Hazard Profile Includes:
 - Location & Extent
 - Range of Magnitude
 - Past Occurrence
 - Future Occurrence
 - Vulnerability assessment
 - People
 - Structures
 - Systems
 - Natural, Historic and Cultural Resources
 - Community Activities

2025 Hazard Mitigation Plan Update

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HAZARD RANKING EXERCISE

- Document Changes in:
 - Frequency of Occurrence
 - Magnitude of Impact
 - Geographic Extent Changed

Increase (I)
Decrease (D)
No Change (NC)



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2018 HAZARD RANKING

Identified Hazards (2018 HMP)	Has the frequency of occurrence, magnitude of impact, and/or geographic extent changed? NC-No Change I-Increase D-Decrease	Additional Comments (Explanation for marked I or D)
Natural		
Riverine Flooding		
Coastal Flooding		
Dam Failure & Release		
Drought		
Earthquake		
Extreme Heat		
Hurricane, Tropical Storm & Nor'easter		
Severe Thunderstorm & Hailstorm		
Severe Winter Storm		
Tornado		
Wildfire, Urban Interface Fire		

- Any Additional Natural Hazards to Consider?

2025 Hazard Mitigation Plan Update

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2025 NON-NATURAL HAZARDS DISCUSSION

Civil Disturbance & Criminal Activity

Environmental Hazards

Nuclear Events

Transportation Accidents

Utility Interruption

2025 Hazard Mitigation Plan Update

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2025 NON-NATURAL HAZARD RANKING

Identified Hazards (2018 HMP)	Has the frequency of occurrence, magnitude of impact, and/or geographic extent changed? NC-No Change I-Increase D-Decrease	Additional Comments (Explanation for marked I or D)
NON NATURAL HAZARD		
Civil Disturbance & Criminal Activity		
Environmental Hazards		
Nuclear Events		
Transportation Accidents		
Utility Interruption		

2025 Hazard Mitigation Plan Update

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Data Collection Efforts



2025 Hazard Mitigation Plan Update

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TRENDS, CAPABILITIES, & GAPS

- How has the nature of hazard risk changed in the last five years?
- Is there new development?
- Capabilities & Gap Assessment - **Next Step**
 - Planning and Regulatory, Administrative and Technical, Financial, and Education and Outreach
 - Are the current resources/capabilities to implement mitigation actions sufficient?
 - Are the fiscal, administrative, political, public support, capability, etc. sufficient?

2025 Hazard Mitigation Plan Update

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FLOODPLAIN COORDINATOR

- Flood Insurance Policies & Claims
- Repetitive & Severe Repetitive Loss Properties
- NFIP Questionnaire

** City of Highland Beach - conduct floodplain management activities or County?*

2025 Hazard Mitigation Plan Update

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NEXT STEPS



2025 Hazard Mitigation Plan Update

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PLAN INTEGRATION

- Government Authorities, Policies, or Codes that influence the way land and buildings are developed and built such as:
 - Comprehensive Plans- County & Municipal
 - Subdivision Regulations
 - Building Codes and Enforcement
 - Capital Improvement Programs
 - Stormwater Management Plans
 - Emergency Operations Plans
 - Hurricane Evacuation Plans

2025 Hazard Mitigation Plan Update

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Next Step - Mitigation Status Assessment

- Fillable Form will be distributed to collect status updates on 2018 Mitigation Actions.



2025 Hazard Mitigation Plan Update

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Schedule and Meetings

Task	Dates
Kick Off Meeting	April 25, 2024
Risk Assessment Mid-Point Meeting	July - August 2024
Mitigation Solutions Workshop	September - October- 2024
Plan Writing	May - December 2024
Plan Review & Approval Process	

2025 Hazard Mitigation Plan Update

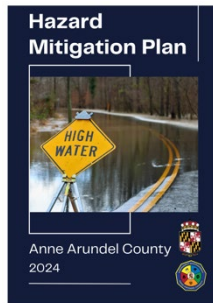
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Thank You



2025 Hazard Mitigation Plan Update

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Hazard Mitigation Planning Committee Kick-off Meeting

April 25, 2024, 10:00 AM – 11:00 AM

Attendees

Anne Arundel County Hazard Mitigation Planning Committee (HMPC) Members

Kerry Topovski, OEM	Andrew McCarra, Inspections & Permits
Alexander Sperling, OEM	Shannon Hojnowski, Risk Management
Joseph Seborowski, OEM	Desirae Williams, OPZ
Alison Flores, Office of Hispanic/Latino and Multicultural Resources	Matt Lawyer, Office of Central Services
Nicole Clinton, Office of Central Services	TyJuan Thompson, Partnership for Children, Youth and Families
Greg Novak, Fire Department	Debbie Saylor, Department of Health
Bill Offutt, Recreation & Parks	Alex Baquie, DPW - Highways
Jason Fetterman, Office of Law	Rodney Tasker, Office of Transportation
Jenny Dempsey, OPZ	Mark James, Michael Baker
Matthew Fleming, Resilience Authority	Virginia Smith, Smith Planning & Design
	Eric Messick, Smith Planning & Design

Welcome and Introductions

Kerry Topovski, Project Development Administrator of the Anne Arundel County's Office of Emergency Management (OEM) welcomed committee members to the meeting. Mark James provided a brief background and called for introductions of contractual support staff and OEM staff verbally and attendees via chat. Mr. James went over the meeting agenda, which included a virtual exercise to gather feedback from attendees on the changes in hazards and risks since the last plan update in 2018.

Project Overview

What is a Hazard Mitigation Plan and why do it? The Plan is a community-driven, living document that communities use to reduce their vulnerability to hazards. Counties must have a plan to maintain access to mitigation grants. These grants can augment local mitigation activities already being accomplished and can leverage other funding sources (state grants and other federal issued grants).

Hazard Mitigation is any action taken to reduce or eliminate long-term risk to people and their property from the effects of hazards.

New [State and Local Mitigation Planning Policy Guide](#) went into effect April 19, 2023. The new guidance mandates that all communities must participate throughout the planning process, not just review, and adopt the plan. Major changes are the inclusion of and focus on social equity and climate change in this plan. It was partially addressed

in the 2018 plan, but more analysis will be required. Also, we will be expanding on the capability assessment and plan integration portions of the plan.

Existing Plan Components will be maintained with some adjustments to the 2018 Plan format. The six key components of the plan include:

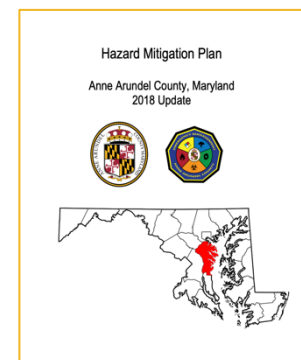
- Community Profile
- Planning Process
- Risk Assessment
- Mitigation Strategy
- Plan Maintenance
- Plan Adoption

Additions and/or expansion of the following items will be completed during the Plan update:

- High Hazard Potential Dams that must be included to apply for HHPD grant program.
- New State requirement to address extreme heat and wildfire.
- Climate change and social vulnerability - refer to new FEMA guidance.

The Plan requires about a month of review by the State and then the federal government takes 45 days for their review. We anticipate having the plan done by December/January with public engagement opportunities midway through the planning process and a second opportunity at the end.

For those HMPC members who would like to view the 2018 Anne Arundel Hazard Mitigation Plan, please visit the OEM webpage on the County's website at: <http://www.aacounty.org/emergency-management/disaster-mitigation>



HMPC Member, Municipal, and Public Participation

Hazard Mitigation Planning Committee (HMPC)– The committee consists of municipal representatives and targeted stakeholders, that are responsible for guiding the direction of the plan. This will be done by using exercises and workshops that are coordinated throughout the planning process. The HMPC will also be responsible for reviewing the plan in working draft sections and a draft copy of the plan upon completion.

There will be a series of surveys and/or fillable forms distributed to committee members during the plan update process. The first meeting, HMPC Kickoff meeting, was April 25th and provided information on updates to hazards. Additional surveys will be issued prior to upcoming meetings and the results will be provided as part of the meeting summary. Additional surveys include:

- Mitigation Action Status
- Capabilities
- Mitigation Action Ideas
- Project Development and Prioritization

Small group topical meetings will be held throughout the plan update, as well. Regular scheduled HMPC meetings will be held periodically, and planning team staff meetings are scheduled bi-weekly. The draft schedule for HMPC meetings is as follows:

- Kick-Off: April 25th - 1 hour
- Midpoint Meeting: late August - 2 hours
- Mitigation Strategy Workshop: November – 3 to 4 hours

Please note, it is important that HMPC members attend meetings and provide input on the plan as it is updated.

Municipal participation - will include updates from Highland Beach. Representative(s) of Highland Beach must participate throughout the plan update process, and we must document participation, in order for their jurisdiction to be covered under the County's Plan. In addition, Highland Beach will also have to identify mitigation action items for each hazard. The County and Highland Beach must show that they have thought through this process.

Public Participation - The public will be given opportunity to comment on the plan and provide input via an online survey. Press releases will be provided, and the public will be invited to outreach opportunities. Plan update material will also be posted to the County's website to review.

Hazards Updates

Natural hazards identified in the previous 2018 Plan and potential new hazards were reviewed during the meeting. An interactive exercise was conducted during the meeting to obtain a local perspective on hazards and their frequency of occurrence, particularly during this past planning cycle. Meeting attendees were asked to add their answers to the "chat" and provided comments on any hazards during this exercise. Each hazard was presented, and committee members provided one of the following answers to rate the frequency of occurrence, magnitude, and geographic extent: (I) Increase, (D) Decrease, or (NC) No Change.

Natural hazards from the previous 2018 Plan were discussed first. Results of the group exercise are as follows:

Natural Hazards	HMPC Perspective (I) Increase, (D) Decrease, or (NC) No Change
Riverine Flooding	NC
Coastal Flooding	I
Dam Failure	NC
Drought	NC
Earthquakes	NC
Extreme Heat	I
Hurricane	I
Severe Storm & Hail	I
Severe Winter Weather	D
Tornado	NC

Wildfire	NC
Erosion	I

Potential non-natural hazards for inclusion in the Plan Update were reviewed next. Hazards that were identified as “no change” and received no comments were not considered further, however several of the potential “new” hazards were identified by attendees as “increasing” and/or comments were provided. In addition, a series of discussion questions were asked to further assist in identifying new hazards for inclusion in the Plan Update. These hazards included: **Civil Disturbance/Active Assailant, Transportation Accidents, Emerging Infectious Disease, and Cyber Attack.**

Data Collection and Next Steps

Questions for review and to consider for next meeting:

Prior to the next meeting, a capabilities survey will be issued to HMPC members. This survey will review the planning, regulatory, administrative, technical/financial, and education/outreach capabilities that the County and municipalities have in place. We will determine if there are gaps and determine if resources are sufficient to implement mitigation actions.

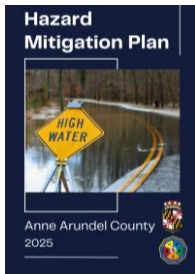
Flood insurance data collection will be requested from FEMA Region 3. A FEMA Region 3 National Flood Insurance Program (NFIP) questionnaire will be completed for inclusion in the Plan Update. Small group topical meeting will be scheduled.

Contact Information

Kerry Topovski - emtopo22@aacounty.org Alex
Sperling - emsper23@aacounty.org
Mark James - mark.james@mbakerintl.com
Virginia Smith - vsmith@smithp-d.com

ATTACHMENT #3

HMPC Midpoint Meeting



HMPC Midpoint Meeting

Virtual Meeting
December 5, 2024
1:00-2:30 PM

1

Welcome

✓ Please add your name and affiliation in the chat box.

✓ All phone users please identify yourself as meeting notes will include a listing of participants.

✓ Please mute your audio during the meeting. If you should have a question, please use the chat box. We will review all questions and comments from the chat, as well as invite phone users to ask questions following the presentation.

✓ Please consider turning your video off during the presentation to reduce potential issues with buffering.

Thank You

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Agenda

- Hazard Mitigation Project Overview
- **Project Update**
 - Small Group Topical Meetings
 - Outreach Efforts and Public Meetings
 - Preliminary Public Survey Results (SurveyMonkey)
 - Hazard Identification & Risk Assessment
- Mitigation Strategies Status Report
- Capability Assessment
- Nuisance Flood Plan Kick-Off
- Next Steps

3

Hazard Mitigation Project Overview



2025 Hazard Mitigation Plan Update

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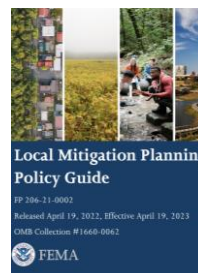
Project Overview

Hazard mitigation is any action taken to permanently reduce or eliminate long-term risk to people and their property from the effects of hazards.

The **Hazard Mitigation Plan** forms the foundation for the County and its community's long-term strategy to reduce disaster losses and break the cycle of disaster damage, reconstruction, and repeated damage.

The purpose of this plan is to identify, plan, and implement cost-effective hazard mitigation measures through a comprehensive approach known as hazard mitigation planning. This plan is an **update** to the **2018 Anne Arundel County Hazard Mitigation Plan**. The Federal Emergency Management Agency (FEMA) requires hazard mitigation plans to be updated every five years.

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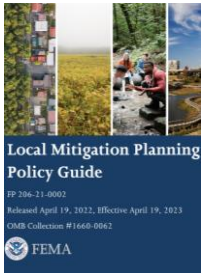


New guidance and update to FEMA Plan Review.
From the guidance:

Risk Assessment **Briefing at Mid-Point Meeting**

1. **Identify hazards.** This step helps you understand what hazards may occur in the planning area.
2. **Describe hazards.** This step helps you know more about the hazards. It looks at where they can happen, how impactful they might be, when they happened before, how often and with what intensity they may occur in the future.
3. **Identify community assets.** This step looks at which assets are most vulnerable to loss during a disaster.
4. **Analyze impacts.** This step describes how each hazard could affect the assets of each community.
5. **Summarize vulnerability.** This step brings all the analysis together. It uses the risk assessment to draw conclusions. From these conclusions, the planning team can develop a strategy to increase the resilience of residents, businesses, the economy and other vital assets.

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Local Mitigation Planning Policy Guide
 FP 204-21-0002
 Released April 19, 2022, Effective April 19, 2023
 OMB Collection #1660-0062
 FEMA

Capability Assessment Today's Exercise

- Planning and Regulatory
- Administrative and technical
- Financial
- Education and outreach

Note: Each type of capability may include laws, regulations, policies, programs, staff or funding. They may go beyond traditional mitigation, too. The planning team may find other capabilities that help make the planning area more resilient.

Mitigation Strategies Mitigation Workshop Upcoming

- Mitigation goals describe what the community wants to achieve as a desired future state with the plan. They are broad, long-term policy and vision statements that explain what the mitigation strategy aims to achieve. They are visions for reducing or avoiding losses from the identified hazards.
- Mitigation actions are specific projects and activities that help achieve the goals. They are measures, projects, plans or activities proposed to reduce the current and future vulnerabilities described in the risk assessment.

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Project Update



2025 Hazard Mitigation Plan Update

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Small Group Topical Meetings

- Following the initial kick-off meeting with HMPC members, both topical (with HMPC members) and public meetings have been accomplished.
- Small Group Topical Meetings:
 - ✓ Social Equity - June 24, 2024
 - ✓ Floodplain Management – June 24, 2024
 - ✓ Resilience Authority – July 22, 2024

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Public Outreach

- OEM Outreach efforts have included:
 - Small Group/Topical Meetings
 - OEM Attendance at Community Events
 - Public Outreach Meetings (virtual and in-person)
 - Media Releases
 - [Project website](#) updates
 - Email Updates
 - Public Surveys



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Community Events

- Outreach Efforts To Date:

Location or Event	Date
River Days Outreach Event – Annapolis Museum	June 29
Kinder Farm Park Community Fair	June 30
Deale Community Library (Shadyside Deale Climate Adaptation Study)	July 17
National Night Out	August 6
Bayview Fireworks Touch a Truck	August 10
River Days Outreach Event – West River Center	August 11
Captain Avery Museum (Shadyside Deale Climate Adaptation Study)	August 13
LEPC Meeting Presentation #1	September 9
River Days Outreach Event – Ft. Smallwood Park	September 14
Meeting with Highland Beach, Mayor	September 20
Hispanic Heritage Festival	September 28

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Public Meetings

- HMP Public Meetings To Date (In-Person):

Meeting & Location	Date
Meeting #1: Linthicum Library	September 30
Meeting #2: Crofton Library	October 14
Meeting #3: Highland Beach and Surrounding Communities	October 21
Meeting #4: Edgewater Library	October 30
Meeting #5: Deale Library	November 12
Meeting #6: Maryland City, Russett Library	November 14
Meeting #7: Broadneck Library	December 3
UPCOMING: Meeting #8: Office of Emergency Management Auditorium	December 11

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BRIC Grant Awards

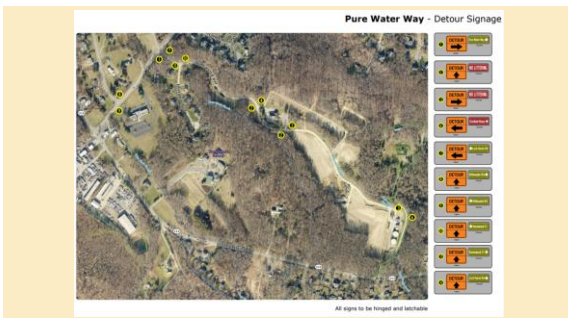
- Shady Side Peninsula Climate Adaptation Study – BRIC 2021-11
- Anne Arundel County Roadway Vulnerability Assessment – BRIC 2020-2

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Pure Water Way Drill

- Location:
 - Between Loch Haven Road and River Club Drive in Edgewater, MD.
- Objectives:
 - Ensure the detour route is fully staffed and prepared to accommodate traffic flow before the road closure.
 - Coordinate with the Office of Emergency Management to notify relevant internal and external stakeholders about the impending road closure, detour activation, and the reopening of MD 214.
 - Direct the Department of Public Works to promptly upload the emergency detour information into the WAZE navigation app and remove the detour once MD 214 has reopened.

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Pure Water Way Drill



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Public Surveys

- Two public surveys have been circulated during the plan update.
- [SurveyMonkey](#):
 - Gather the public's perspective on hazards identified in the plan, as well as additional information such as mitigation strategy preferences.
 - Paper copies and drop box for in-person outreach events
 - English and Spanish versions available
- [ArcGIS Survey123](#):
 - For use at public meetings to identify **specific hazard locations** virtually on a map.

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Preliminary Public Survey Results



2025 Hazard Mitigation Plan Update

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Hazard Perspective Survey

- This survey is being used to collect participant insight and perspective on hazards identified in the plan.
- 20 Questions



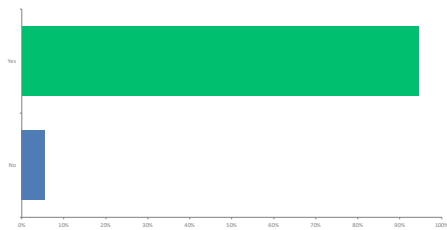
19

Hazard Perspective Survey

- To date, 182 surveys are completed.
- Hard copy surveys completed and obtained during public meeting were entered into online survey platform.
- HMPC member assistance is needed. Please repost and/or share the survey link.

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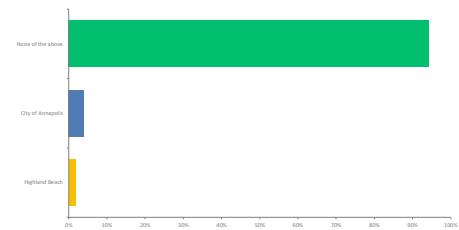
Q1: Are you a resident of Anne Arundel County?



Powered by SurveyMonkey

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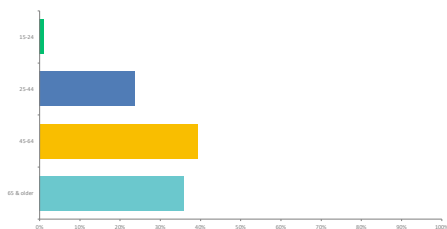
Q2: If you live in a municipality, please indicate which municipality below.



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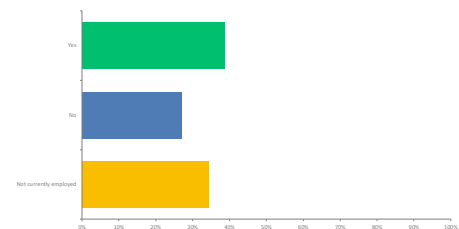
Q3: Which age group are you in?



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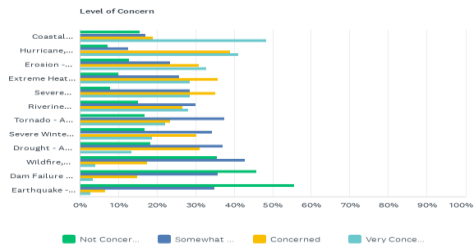
Q4: Do you work in Anne Arundel County?



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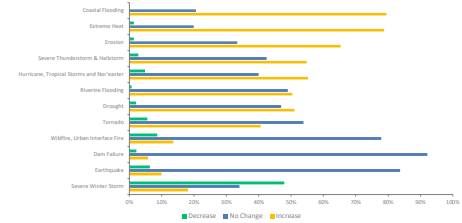
Q5: Please indicate your level of concern for each hazard using the drop down menu.



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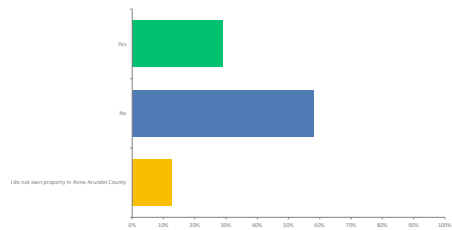
Q6: Over the last 10 years, have you noticed an increase or decrease in the frequency or intensity of any of the following hazards?



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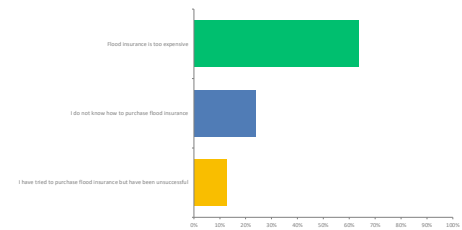
Q8: If you own your home or commercial property, do you have flood insurance?



Powered by SurveyMonkey

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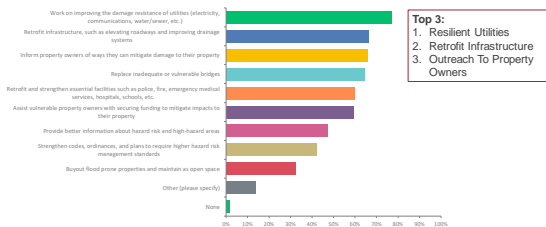
Q9: If "No", what is the primary reason why you do not carry flood insurance?



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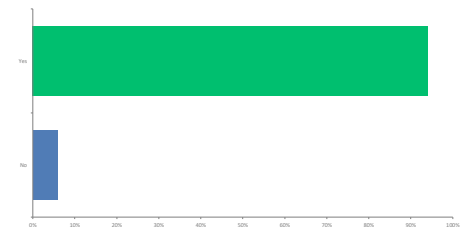
Q13: Which of the following mitigation project types do you believe should be focused on to reduce disruptions of services and strengthen the community? (Select all that apply)



Powered by SurveyMonkey

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Q14: Do you support policies to restrict or prohibit development in designated hazard zones?



Powered by SurveyMonkey

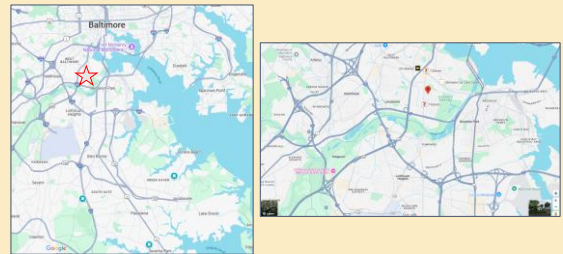
30

Survey123 Results

- Total responses - Two
- Areas of concern
 - Extreme Heat
 - Riverine Flooding
- Extreme heat response
 - Happening very often (5 or more times a year)
 - Increasing
- Riverine Flooding
 - Happening often (3 to 4 times a year)
 - No change

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Survey123 Results



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Hazard Identification and Risk Assessment



2025 Hazard Mitigation Plan Update

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Hazard Update Results

• Hazard & Risk Evaluation

- At HMPC Kick-off Meeting, members discussed and evaluated hazards included in the plan.
- **Question:** Has the rate of frequency of occurrence, magnitude, or geographic extent of hazards included in the plan Increased, Decreased, or No Change?

Results:

2025 Hazard	Status
Flood	Increase
Dam Failure	No Change
Tropical Systems	Increase
Drought	No Change
Earthquakes	No Change
Extreme Temperatures	Increase
Thunderstorms	Increase
Severe Winter Weather	Decrease
Tornado	No Change
Wildfire	No Change
Erosion	Increase
Soil Movement	No Change
Emerging Infectious Disease (New Hazard)	Increase
Civil Disturbance and Active Assault (New Hazard)	No Change
Transportation Accidents (New Hazard)	Increase
Cyber Attack (New Hazard)	Increase

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Risk Assessment

- The risk assessment identifies the potential impacts of hazards on the community including residents, the economy, and the built and natural environments.
- The risk assessment identifies and prioritizes actions to reduce risk while the capability assessment evaluates the existing authorities, policies, programs, and resources to accomplish the hazard mitigation update.

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Risk Assessment

Each Hazard Specific Section includes the following:

- Description
- Locations and Extent
- Past Occurrences & Future Probability
- Impacts to People (including social vulnerability)
- Impacts to Structures
- Impacts to Systems
- Impacts to Natural, Historic and Cultural Resources
- Impacts to Community Activities
- Future Conditions
- Future Land Use & Development Trends
- Considerations for the Next Planning Cycle

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Source: FEMA, NOAA National Climatic Data Center Database * [Anne Arundel County, Maryland coronavirus cases and deaths | USAFacts](#)

- Natural hazard events of note that have occurred in the last 5 years (that are not declared disasters) that have impacted the County include:

Source: Anne Arundel County OEM

Source: Anne Arundel County OEM

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Special Flood Hazard Area

- Flood hazard areas identified on the Flood Insurance Rate Map are identified as a **Special Flood Hazard Area** (SFHA). SFHA are defined as the area that will be inundated by the flood event having a 1-percent annual chance of being equaled or exceeded in any given year. The 1-percent annual chance flood is also referred to as the base flood or 100-year flood.
- SFHAs are labeled as Zone A, Zone AO, Zone AH, Zones A1-A30, Zone AE, Zone A99, Zone V, Zone VE, and Zones V1-V30.

FEMA regulated Flood Insurance Rate Maps,
Effective Date: February 18, 2015

Anne Arundel County Flood Zones:
Riverine: AE, A, AO
Coastal: VE

FEMA Flood Zone Designations				
Undetermined Risk	Low Risk	Moderate Risk	High Risk	Coastal High Risk
	Increasing Risk →			
Zone D	Zones C and X (unshaded)	Zones B and X (shaded)	Zones A, AE, A1-A30, AH, AO, A99	Zones V, VE, V1-V30
	Non-Special Flood Hazard Area (NSFHA)		Special Flood Hazard Area (SFHA)	

Community Lifelines within the 1% Annual Chance Floodplain

Community Lifeline	Facility Type	Facility Name	Address	City	SFHA	Flood Depth
Hazardous Materials	Food Market	Hein Brothers, Inc.	1820 Baltimore Annapolis Boulevard	Glen Burnie	Zone AE	0.9
	Energy Storage	Griffe Energy Services, Inc.	1402 Baltimore Annapolis Blvd	Glen Burnie	Zone AE	0.9
	Oil	Bay Mills SPS	675 Bay Green Dr	Annapolis	Zone A	0.5
	Storage	Megara SPS	817 Sunbrook Dr	Glen Burnie	Zone A	1.6
Water Systems	Water Treatment	Palmer Park SPS	280 Stearns Rd	Linthicum Heights	Zone AE	0.3
	Water Treatment	Palmer Park SPS	280 Stearns Rd	Linthicum Heights	Zone AE	0.3
	Water Treatment	Palmer Park SPS	280 Stearns Rd	Linthicum Heights	Zone AE	0.3
	Water Treatment	Palmer Park SPS	280 Stearns Rd	Linthicum Heights	Zone AE	0.3
	Water Treatment	Palmer Park SPS	280 Stearns Rd	Linthicum Heights	Zone AE	0.3
	Water Treatment	Palmer Park SPS	280 Stearns Rd	Linthicum Heights	Zone AE	0.3
	Water Treatment	Palmer Park SPS	280 Stearns Rd	Linthicum Heights	Zone AE	0.3
	Water Treatment	Palmer Park SPS	280 Stearns Rd	Linthicum Heights	Zone AE	0.3



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Community Lifelines within the 1% Annual Chance Floodplain – Highland Beach

Note: No community lifeline facilities are within the LiMWA or the coastal high hazard zone (VE) with wave action in Highland Beach.



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NFIP Repetitive and Severe Repetitive Loss Properties

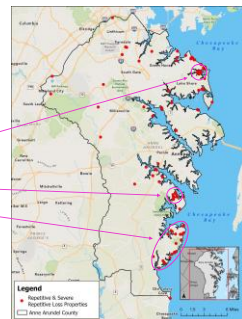
Type	Definition
Repetitive Loss Properties	A structure covered by an NFIP flood insurance policy that: <ul style="list-style-type: none"> Has had flood-related damage on two occasions, with the average cost of repair at or over 25% of the value of the structure at that time; and When the second flood-related damage took place, the policy had Increased Cost of Compliance coverage.
Severe Repetitive Loss Properties	A structure covered by an NFIP flood insurance policy that has had flood-related damage: <ul style="list-style-type: none"> For which four or more separate claims payments for flood-related damage have been made. The amount of each claim (including building and contents payments) exceeded \$5,000, and the cumulative amount of the claims payments exceeded \$20,000; or For which at least two flood insurance claims payments (building payments only) have been made, with a cumulative claims total that exceeds the market value of the insured structure.

Source: 2023 Local Hazard Mitigation Planning Handbook, Page 76.

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Repetitive & Severe Repetitive Loss Properties

- Coastal areas are highly impacted:
1. Spit Neck along Back Creek and Main Creek
 2. Selby on the Bay
 3. Shadyside-Deale peninsula

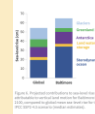
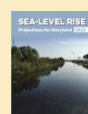


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Projected Sea Level Rise

Sea-Level Rise Projections 2023 found that sea level along Maryland's shores will very likely rise a foot between 2000 and 2050—as much as it did over the whole of the last century—and could rise a foot and a half.

Updated every five years – Maryland Commission on Climate Change Act 2023.



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Projected Sea Level Rise

Maryland has been and will continue to be **greater than the global average**. Beyond the effects of negative vertical land motion (VLM) due to regional geological processes, sea-level rise at Baltimore is projected to be about **17% greater** than for global mean sea-level rise in 2100 under the Current Commitments emissions pathway

This difference is largely due to ocean dynamic processes associated with circulation in the North Atlantic Ocean and the Gulf Stream off the Mid-Atlantic coast.

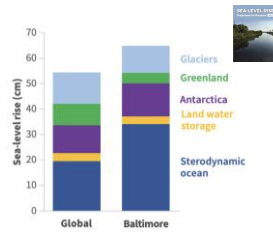
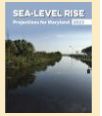


Figure 6. Projected contributions to sea-level rise not attributable to vertical land motion for Baltimore in 2100, compared to global mean sea-level rise for the IPCC SSP2-4.5 scenario (median estimates).

- Best estimates (medians, 50th quantile) recommended SLR estimate for managing or restoring natural infrastructure unless the project scoping determines otherwise. Examples include tidal wetland management and restoration, creating living shorelines, estimation of saltwater intrusion and coastal landscape migration, or protecting estuarine water quality.
- SLR estimates that are unlikely to be exceeded (83rd quantile) are recommended for built infrastructure and community-wide planning with medium tolerance for flood risk.

		Quantile	2020	2030	2040	2050	2060	2070	2080	2090	2100	2110	2120	2130	2140	2150
ANNAPOLIS																
METERS	5	0.04	0.09	0.15	0.23	0.31	0.39	0.45	0.51	0.54	0.56	0.61	0.67	0.72	0.78	
	17	0.07	0.13	0.20	0.29	0.37	0.45	0.53	0.60	0.65	0.69	0.76	0.83	0.89	0.96	
	50	0.11	0.19	0.28	0.37	0.46	0.56	0.66	0.75	0.85	0.93	1.04	1.13	1.23	1.33	
	83	0.15	0.26	0.37	0.48	0.58	0.71	0.83	0.96	1.11	1.26	1.40	1.54	1.68	1.82	
	95	0.18	0.31	0.43	0.56	0.68	0.83	0.98	1.13	1.32	1.51	1.68	1.86	2.03	2.20	
FEET	5	0.14	0.29	0.50	0.76	1.02	1.26	1.49	1.68	1.78	1.82	2.00	2.19	2.38	2.55	
	17	0.23	0.43	0.67	0.94	1.21	1.49	1.73	1.96	2.13	2.25	2.48	2.71	2.93	3.15	
	50	0.36	0.63	0.92	1.23	1.52	1.85	2.16	2.45	2.76	3.06	3.40	3.72	4.04	4.35	
	83	0.49	0.85	1.20	1.56	1.92	2.33	2.73	3.14	3.63	4.12	4.59	5.06	5.52	5.97	
	95	0.59	1.01	1.41	1.82	2.23	2.72	3.22	3.71	4.34	4.94	5.52	6.09	6.66	7.22	



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Storm Surge

The area with the greatest vulnerability to hurricane storm surge is the peninsula including Shady Side down to Deale. Nearly all of this peninsula is within the category 1 storm surge area, and much of it is within category 2 and 3 storm surge areas. The majority of existing land use in this area is residential low density, residential low-medium density, and parks and open space. There are some villages with high residential density, including Deale.

Saffir/Simpson Hurricane Scale:

Storm Category	Central Pressure	Sustained Winds	Storm Surge	Potential Damage
1	> 980 mbar	74 – 95 mph	4 – 5 ft	Minimal
2	965 – 979 mbar	96 – 110 mph	6 – 8 ft	Moderate
3	945 – 964 mbar	111 – 130 mph	9 – 12 ft	Extensive
4	920 – 944 mbar	131 – 155 mph	13 – 18 ft	Extreme
5	< 920 mbar	> 155 mph	> 18 ft	Catastrophic

NOAA Coastal Flood Hazard Composite

This map shows areas prone to flooding from one or more of the following hazards:

- High tide flooding
- High risk (1% annual chance for A and V zones) and moderate risk (0.2% annual chance) flooding (designated by the Federal Emergency Management Agency)
- Storm surge for category 1 through category 3 hurricanes
- Sea level rise scenarios of 1, 2, and 3 feet

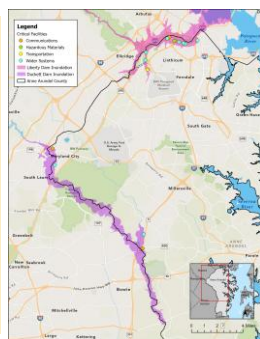
Note: The darker the color on the map, the more flood hazard zones there are for that area.



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Dam Inundation

- No High Hazard dams within Anne Arundel County, however inundation areas from two adjacent high hazard dams are within Anne Arundel County, and include:
 - Liberty Dam** – Baltimore County (Condition Assessment date April 6, 2022 - Unsatisfactory)
 - Duckett Dam** – Prince George's County (October 23, 2023 Condition Assessment - Fair Condition)
- Coordination with adjacent counties.



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Mitigation Strategies Status Report

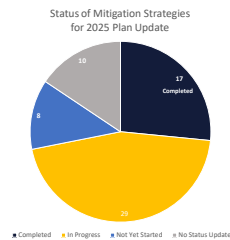


2025 Hazard Mitigation Plan Update

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Mitigation Strategies Status Report Results

- Mitigation Action items included in the 2018 Plan were reviewed by lead departments and received a status update.
- 64 Mitigation Action Items were reviewed in total.
 - 17 "Completed"
 - 29 "In Progress"
 - 8 "Not Yet Started"
- Goals and Objectives were also reviewed.



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Mitigation Strategies Status Report: Completed Action Items



- Acquire repetitively flooded structures and non-repetitive loss structures
- Cape St. Claire-Stormwater Runoff Controls
- Create a plan for cooling centers and shelters
- Create and build upon cooperative relationships with news media outlets for distributing information about All Hazards and future HMP updates
- Create cooperative relationships with news outlets for distributing information about winter storms
- Develop coordinated interagency debris removal plan
- Encourage citizens and County personnel to take CERT course
- Ensure adequate plans, procedures, and capabilities to respond to a dam failure
- Establish a relationship with BGE to reduce power outages
- Harmans Road Culvert replacement
- Identify roles and responsibilities of County response agencies
- IPAWS certification
- Maintain public awareness and education campaigns for all hazards
- NW/S StormReady program
- Promote use of NOAA "All Hazards" radios for early warning and post-event information to critical facilities
- Shipley's Choice Dam Rehab
- Update General Development Plan, Plan 2040

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Capability Assessment



2025 Hazard Mitigation Plan Update

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Capability Assessment - Categories

- Risk Assessment - Identifies/Prioritizes Hazards
- Mitigation Strategy – Suggests Actions to Mitigate Hazards
- Capability Assessment – Evaluates Policies & Programs
- Are the Current Resources/Capabilities to Implement Mitigation Actions Sufficient?
 - Planning and Regulatory
 - Administrative and Technical
 - Financial
 - Education and Outreach

Needed for the County & Highland Beach

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Capability Assessment - Ranking

- Limited:** Unable to implement most mitigation actions.
- Low:** Able to implement a few mitigation actions.
- Moderate:** Improvement is needed to implement some mitigation actions.
- High:** Demonstrated resources to implement mitigation actions.

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Capability Assessment - Questions

- Planning and Regulatory**- plans, policies, statutes or regulations that could affect your jurisdiction's resilience to future natural hazard events and other future conditions, including the potential effects of climate change. These are the plans and regulations that guide development and manage growth in your jurisdiction. These tools can shape risk reduction in the built and natural environment.

Need for both the County & Highland Beach

Local Perspective – Anne Arundel County & Highland Beach

Are the Current **Planning and Regulatory** Resources/Capabilities to Implement Mitigation Actions Sufficient?

Limited: Unable to implement most mitigation actions.

Low: Able to implement a few mitigation actions.

Moderate: Improvement is needed to implement some mitigation actions.

High: Demonstrated resources to implement mitigation actions.

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Capability Assessment - Integration

- Aligning Capabilities with Resilience
- Capabilities Assessment Summary & Findings
 - Results from Questions – Planning and Regulatory Category
- Plan Review and Summaries
 - Emergency Management – EOP / Hazardous Air Quality Plan / COOP / Disaster Housing Recovery Plan / Nuisance Flood Plan
 - Land Use & Development – Plan2040 / Zoning, Subdivision, & Stormwater Ordinance / Building Code
 - Natural Resources Conservation – Sea Level Rise Strategic Plan / Climate Resilience Action Strategy / Land Preservation, Parks, & Recreation Plan / Green Infrastructure Master Plan / Watershed Implementation Plan / Master Plan for Water Supply & Sewerage Systems
- Floodplain Management – Completed during small group meeting with Floodplain Manager. Includes both the County & Highland Beach.

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Floodplain Management Results

- Floodplain management is a community-based effort to prevent or reduce the risk of flooding, resulting in a more resilient community.
- FEMA "[Checking in on the NFIP](#)" floodplain capability assessment
 - Floodplain Identification & Mapping
 - Floodplain Management
 - Flood Insurance
- Floodplain Management Meeting held June 25, 2024.



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Capability Assessment - Questions

- Administrative and Technical** - Assess the "people-powered" capabilities that can support mitigation.
- These may be administrative, technical, volunteer or advocacy group capabilities.

Need for both the County & Highland Beach

Local Perspective – Anne Arundel County & Highland Beach

Are the Current **Administrative and Technical** Resources/Capabilities to Implement Mitigation Actions Sufficient?

Limited: Unable to implement most mitigation actions.

Low: Able to implement a few mitigation actions.

Moderate: Improvement is needed to implement some mitigation actions.

High: Demonstrated resources to implement mitigation actions.

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Capability Assessment - Table

Need for both the County & Highland Beach

ADMINISTRATIVE & TECHNICAL CAPABILITIES – ANNE ARUNDEL COUNTY			
Staff or Personnel Resource	Yes	No	Recommendations/Gaps
Land Use/Development Planning	X		
Engineering	X		
Emergency Manager/Management	X		
Floodplain Manager	X		
Geographic Information Systems (GIS) staff	X		
Grant Writer/Manager			

Identify gaps and/or recommendations for financial capabilities over the next 5 years.

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Capability Assessment - Questions

- Financial** - Financial capabilities include access to or eligibility to use funding resources for hazard mitigation.

Need for both the County & Highland Beach

Local Perspective – Anne Arundel County & Highland Beach

Are the Current **Financial** Resources/Capabilities to Implement Mitigation Actions Sufficient?

Limited: Unable to implement most mitigation actions.

Low: Able to implement a few mitigation actions.

Moderate: Improvement is needed to implement some mitigation actions.

High: Demonstrated resources to implement mitigation actions.

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Capability Assessment - Questions

Financial capabilities include access to or eligibility to use funding resources for hazard mitigation. *Need for both the County & Highland Beach*

- Grant matching funds?
- Has this funding resource been used in the past for hazard mitigation?
- What can be used to fund future mitigation actions?
- How can the resource be further leveraged to reduce risk?

Identify gaps and/or recommendations for financial capabilities over the next 5 years.

Consider the following examples:

- Community Rating System (CRS)
- Disaster/Safety-Related School Programs
- Firewise Communities
- Plan Implementation and Grant Development
- Storm Ready communities

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Capability Assessment - Questions

- **Education and Outreach**- existing programs that support mitigation and communicate risk. These could include technical assistance, training and education and awareness campaigns that build capacity.

Need for both the County & Highland Beach

Local Perspective – Anne Arundel County & Highland Beach

Are the Current **Education and Outreach** Resources/Capabilities to Implement Mitigation Actions Sufficient?

Limited: Unable to implement most mitigation actions.

Low: Able to implement a few mitigation actions.

Moderate: Improvement is needed to implement some mitigation actions.

High: Demonstrated resources to implement mitigation actions.

Capability Assessment - Questions

Education and Outreach- existing programs that support mitigation and communicate risk. These could include technical assistance, training and education and awareness campaigns that build capacity.

Need for both the County & Highland Beach

Identify gaps and/or recommendations for education & outreach capabilities over the next five years.

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Nuisance Flood Plan Update

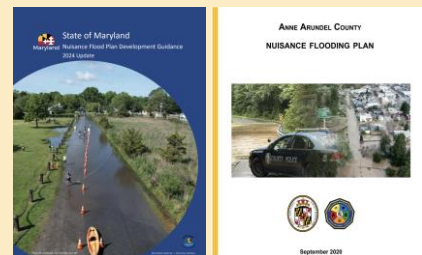


2025 Hazard Mitigation Plan Update

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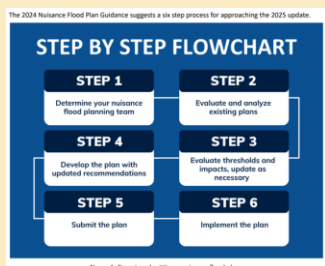
Nuisance Flood Plan Update

New 2024 NFP Guidance



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Nuisance Flood Plan Update



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Nuisance Flood

- The definition of nuisance flooding in accordance with §3-1001 of the Natural Resource Article is "high tide flooding that causes a public inconvenience."
- Frequent low-lying areas is the increased frequency of nuisance flooding sufficient to cause a public inconvenience, such as the closure of roads or water in buildings.
- In Maryland, tidal flooding events typically occur when southerly winds drive water up the Chesapeake Bay or when north-east winds raise water levels along the Atlantic coast, particularly if this coincides with high tides. Such nuisance flooding events, sometimes called "high tide" flooding, are increasing in frequency around the United States as sea level rises.

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Nuisance Flood

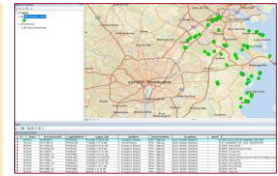
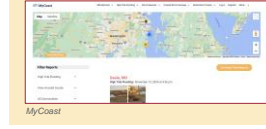
NOMA Technical Report NOS.CO.OPS.086
Patterns and Projections of High Tide Flooding along the U.S. Coastline
[Using a Common Impact Threshold](#)



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Nuisance Flood Data Sources

- MyCoast Maryland
- Anne Arundel County Emergency Service Request (ESR) Road Closures
- Annapolis Tide Gauge



ESR Road Closures



Tide Gauge

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Next Steps

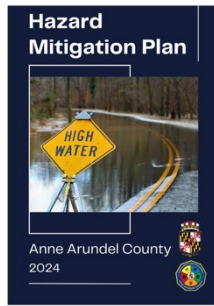
- Capability Assessment Review & Comments
- Working Draft Hazard Chapters Distribution to HMPC
- Collection of New Mitigation Action Ideas
- **In-Person Mitigation Solutions Workshop**

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Thank You!

Note: Meeting notes and mitigation ideas form will be distributed.

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Hazard Mitigation Committee Mid-Point Meeting December 5, 2024, 1:00 PM – 3:30 PM

Attendees

Anne Arundel County Hazard Mitigation Planning Committee (HMPC) Members:

Kerry Topovski, OEM

Alexander Sperling, OEM

Joseph Seborowski, OEM

Kelly Mackall, Aging & Disabilities

Shannon Hojnowski, OCS Risk Management

Kelly Krinetz OPZ

Mark Burt, OPZ - Research & GIS

Nicole Clinton, Office of Central Services

Andrew McCarra - Inspections & Permits

Matt Lawyer, OCS/FMD

Matt Fleming, AACO/Annapolis Resilience Authority

Janssen Evelyn, AACO/ Office of the County Exec.

Bradley Hunt Recreation and Parks

Erin Dey, Public Works

Desirae Williams, OPZ, Long Range Planning

Mark James, Michael Baker

Eric Messick, Smith Planning & Design

Welcome and Introductions

Kerry Topovski, Project Development Administrator of the Anne Arundel County's Office of Emergency Management (OEM) welcomed committee members to the meeting. Eric Messick provided a brief background and called for introductions attendees via chat, and meeting instructions. Mr. Messick went over the meeting agenda, which included updates to the plan over the past 6 months, a report out on the mitigation strategy, a virtual exercise to gather feedback from attendees on agency capabilities, and a kickoff to the Nuisance Flood Plan.

Project Overview

Hazard Mitigation, the definition and why a Hazard Mitigation Plan is needed was reviewed. New FEMA guidance on local plan review released in April 23 was also reviewed:

Hazard mitigation is any action taken to permanently reduce or eliminate long-term risk to people and their property from the effects of hazards.

The **Hazard Mitigation Plan** forms the foundation for the County and its community's long-term strategy to reduce disaster losses and break the cycle of disaster damage, reconstruction, and repeated damage.

The Federal Emergency Management Agency (FEMA) requires hazard mitigation plans to be **updated every five years**. This plan is an update to the 2018 Anne Arundel County Hazard Mitigation Plan.

The three components of the Hazard Mitigation Plan (Risk Assessment, Capabilities Assessment, and Mitigation Strategy) were highlighted with regard to the changes in FEMA new guidelines:

https://www.fema.gov/sites/default/files/documents/fema_local-mitigation-planning-policy-guide_042022.pdf

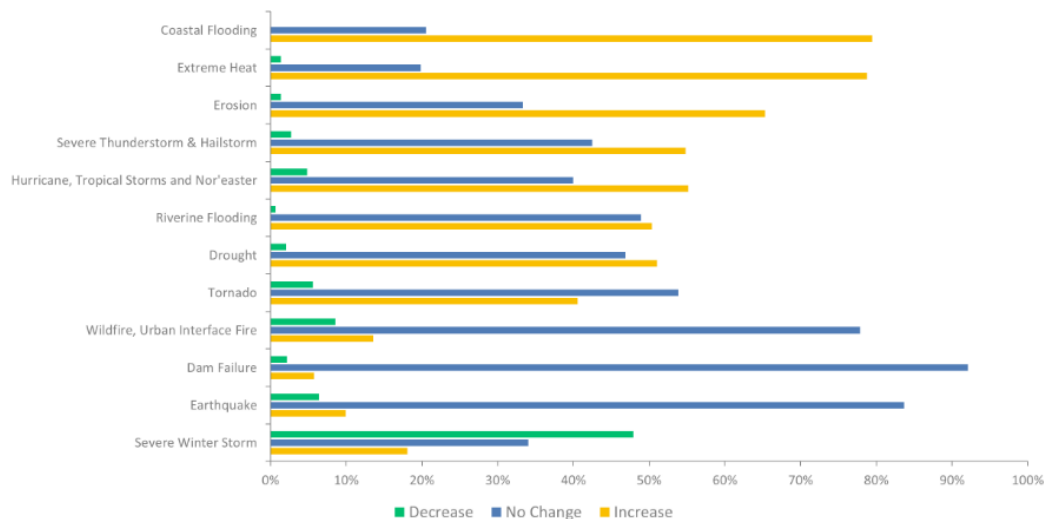
Project Updates

Over the past 6 months OEM has undertaken a number of public outreach efforts. Project updates were presented for Public Outreach opportunities and Survey Results.

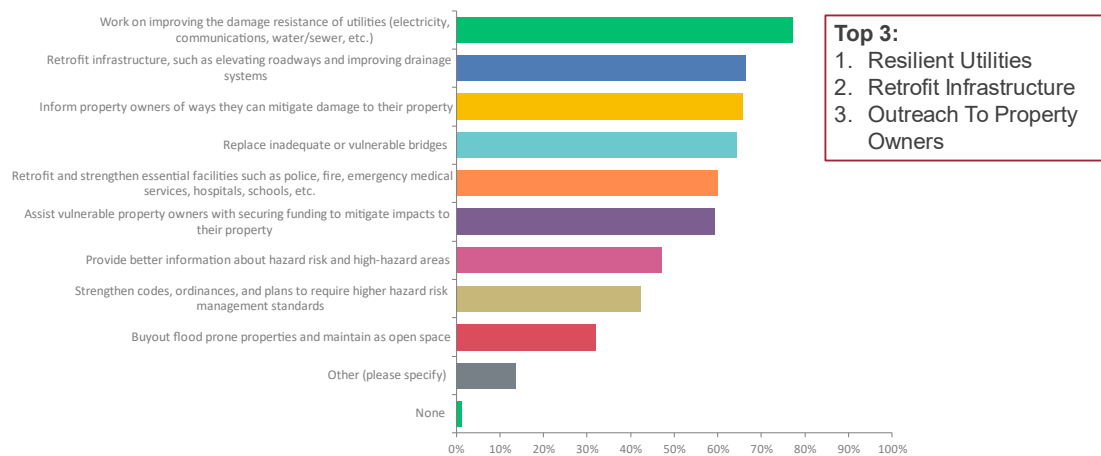
Public Outreach Efforts:

- Attendance at 11 public events occurring from June 29 through September 28.
- Held 8 public meetings across the County from September 30 through December 11.
- Circulated two public surveys that utilized Survey Monkey and ArcGIS123 to gather public perspectives on hazards and location of flooding across the County.
 - Hazard Perspective Survey: Results collected to date were presented at the meeting. As of November 3, 2024, 182 members of the public have taken the online survey.
 - Hard copy surveys completed and obtained during public meeting were entered into the online survey platform.
 - Highlighted results from SurveyMonkey include:

Q6: Over the last 10 years, have you noticed an increase or decrease in the frequency or intensity of any of the following hazards?

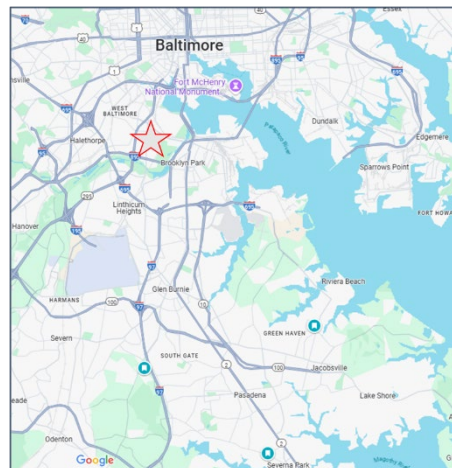


Q13: Which of the following mitigation project types do you believe should be focused on to reduce disruptions of services and strengthen the community? (Select all that apply)



Powered by SurveyMonkey

There were a total of two responses to the Survey123 recorded in the northern portion of the County near Brooklyn Park. Areas of concern were extreme heat and riverine flooding



Other forms of outreach and coordination included Small Group Topical Meeting:

- Social Equity – June 24
- Floodplain Management – June 24
- Resilience Authority – July 22

Press Release, Social Media Post, and OEM webpage updates (new content uploaded periodically).

Risk Assessment Update

Results of the **Hazard Identification and Risk Assessment** (completed during the kick-off meeting) were presented. HMPC members were also asked to comment on the severity of each hazard during the virtual kickoff meeting. Each hazard was presented in the chat section and committee members provided one of the following answers to rate the frequency of occurrence, magnitude, and geographic extent: (I) Increase, (D) Decrease, or (NC) No Change.

2025 Hazard	Status
Flood	Increase
Dam Failure	No Change
Tropical Systems	Increase
Drought	No Change
Earthquakes	No Change
Extreme Temperatures	Increase
Thunderstorms	Increase
Severe Winter Weather	Decrease
Tornado	No Change
Wildfire	No Change
Erosion	Increase
Soil Movement	No Change
Emerging Infectious Disease (New Hazard)	Increase
Civil Disturbance and Active Assailant (New Hazard)	No Change
Transportation Accidents (New Hazard)	Increase
Cyber Attack (New Hazard)	Increase

Draft Hazard Profile chapters will be distributed to HMPC members after the mid-point meeting in time for review and discussion during the Mitigation Strategy Workshop in January.

Hazard profiles include:

- Description
- Location and Extent
- Past Occurrence & Future Probability
- Vulnerability assessment
 - Impacts to People (including social vulnerability)
 - Impacts to Structures
 - Impacts to Systems
 - Impacts to Natural, Historic and Cultural Resources
 - Impacts to Community Activities
 - Future Conditions
 - Future Land Use & Development Trends
 - Considerations for Next Planning Cycle

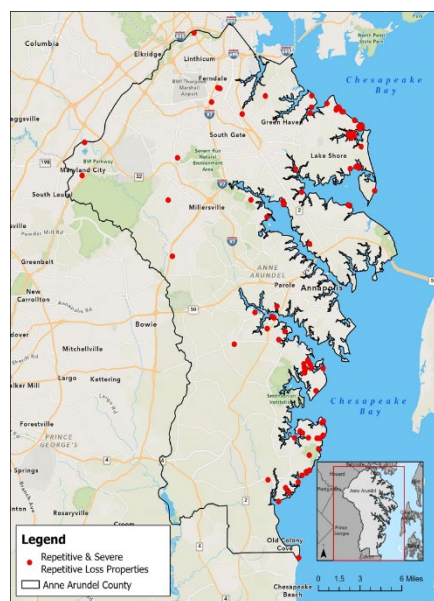
Presidential Disasters that have been declared over the past 5 years or since the last plan were also presented. There was only one declaration and that was for the Maryland Covid Pandemic that was declared between January 20, 2020, and May 11, 2023. A total of 1,147 deaths and 107,255 injuries were documented in this declaration.

Data provided by the County revealed additional events over the last 5 years (that were not declared disasters) but have impacted the County include:

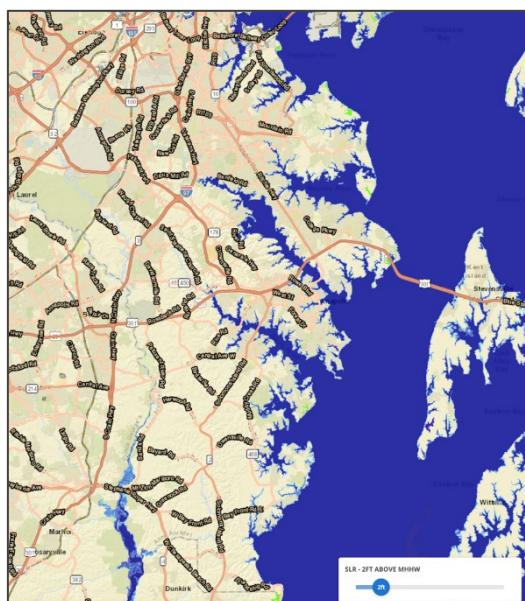
Event Type	Total # of Occurrences	Years of Impact
Coastal Flooding	12	2021, 2023, 2024
Emerging Infectious Diseases	2	2023
Extreme Temperatures	5	2023, 2024
Flooding (heavy rain)	8	2018, 2021
Severe Winter Weather/Snow Accumulation	4	2022, 2024
Thunderstorm	7	2018, 2022, 2024
Tornado	3	2020, 2021, 2022
Tropical System	6	2020, 2021, 2022, 2023, 2024

Context material was provided to display how impacts to communities from hazards are identified and measured. This was done in preparation for the Mitigation Strategy Workshop. Maps displaying SFHA impacts on Repetitive Loss (RL) Properties and Severe Repetitive Loss (SRL) properties, impacts associated with Sea Level Rise (SLR), and the NOAA Coastal Flood Hazard Composite mapping tool were presented.

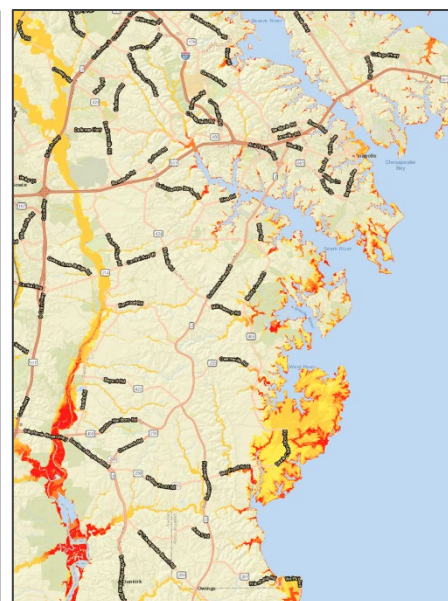
Repetitive /Severe Repetitive Loss



Sea Level Rise



NOAA Composite Map



Context was provided for the following:

- **Critical Facilities** – a structure or infrastructure that is essential to the health and welfare of the population, especially in the aftermath of a disaster. Critical facilities are vital to the community's ability to respond to and recover from events that threaten the public's safety and well-being.
- **Community Lifelines** – the most fundamental services in a community that, when stabilized, enable all other aspects of society. A lifeline enables the continuous operation of critical business and government functions and is essential to human health and safety or economic security.
- **Special Flood Hazard Area (SFHA)** – are defined as the area that will be inundated by the flood event having a 1-percent chance of being equaled or exceeded in any given year. The 1-percent annual chance flood is also referred to as the base flood or 100-year flood.
- **Sea-Level Rise Projections 2023** – found that sea level along Maryland's shores will very likely rise a foot between 2000 and 2050—as much as it did over the whole of the last century—and could rise a foot and a half.
- **Storm Surge** – The area with the greatest vulnerability to hurricane storm surge is the peninsula including Shady Side down to Deale. Nearly all of this peninsula is within the category 1 storm surge area, and much of it is within category 2 and 3 storm surge areas.

Mitigation Strategy Update

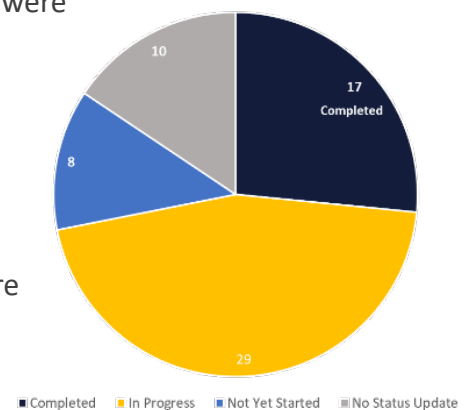
Mitigation Action items included in the 2018 Plan were reviewed by lead departments and received a status update. These updates were presented at the meeting:

- 64 Mitigation Action Items were reviewed
- 17 “Completed”
- 29 “In Progress”
- 8 “Not Yet Started”

Action items **completed** in the previous 5 year planning cycle are shown below:

- Acquire repetitively flooded structures and non-repetitive loss structures
- Cape St. Claire-Stormwater Runoff Controls
- Create a plan for cooling centers and shelters
- Create and build upon cooperative relationships with news media outlets for distributing information about All Hazards and future HMP updates
- Create cooperative relationships with news outlets for distributing information about winter storms
- Develop coordinated interagency debris removal plan
- Encourage citizens and County personnel to take CERT course
- Ensure adequate plans, procedures, and capabilities to respond to a dam failure

Status of Mitigation Strategies
for 2025 Plan Update



- Establish a relationship with BGE to reduce power outages
- Harmans Road Culvert replacement
- Identify roles and responsibilities of County response agencies
- IPAWS certification
- Maintain public awareness and education campaigns for all hazards
- NWS StormReady program
- Promote use of NOAA “All Hazards” radios for early warning and post-event information to critical facilities
- Shipley’s Choice Dam Rehab
- Update General Development Plan, Plan 2040

Capabilities Assessment Work Session

FEMA Required Element Of Hazard Mitigation Plan Updates

- ✓ Does the plan describe how the existing capabilities of each participant are available to support the mitigation strategy? Does this include a discussion of the existing building codes and land use and development ordinances or regulations?
- ✓ Does the plan describe how jurisdictions integrated the mitigation plan, when appropriate, into other planning mechanisms?
- ✓ Does the plan describe each participant’s ability to expand and improve the identified capabilities to achieve mitigation?

The capability assessment evaluates the existing authorities, policies, programs, and resources that implement the actions to address impacts to hazards.

A work session was held to provide an opportunity for HMPC members to identify capabilities and gaps as it relates to hazard mitigation. The identification of capability gaps and/or ideas for capability enhancements are incorporated into new mitigation strategies. The HMPC was asked to rank 4 categories as having limited, low, moderate high:

1. Planning and Regulatory
2. Administrative and Technical
3. Financial
4. Education and Outreach

Question: Are existing resources/capabilities enough to sufficiently implement mitigation actions? Are there opportunities to add to or enhance existing capabilities as they relate to hazard mitigation?

Results form the Work Session follow:

- Planning and Regulatory – **High**
- Administrative and Technical – **Moderate**

Comments:

- FEMA recommended more staffing for floodplain management during the last CAV they performed.
- Under the Grant Writer/Manager - as it comes to implementation of infrastructure to mitigate current and future impacts the RA could help so provide additional capacity to support.

- Financial – **Moderate**

Comments:

- AACO has an extremely strong stormwater program as well as shoreline erosion tax district. Capital budget process considered climate risks as part of the CIP - however, with the high number of projects/threats occurring on private property public financing can difficult.
- Education and Outreach – **High**

A follow-up questionnaire will be issued by OEM to HMPC members in hopes to gain additional input on capabilities that were not received during the Mid- Point meeting. Questions will focus on addressing potential gaps that will generate discussion of new mitigation ideas during the upcoming Mitigation Workshop.

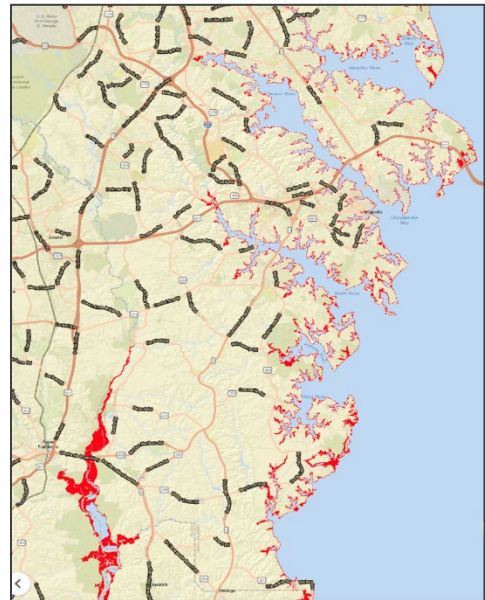
Nuisance Flood Plan

The new DNR Nuisance Flood Plan Development Guidelines was issued in summer 2024. Members of the HMPC were introduced to the six step process that is now part of the revised guidelines, provided the official definition of Nuisance flooding

§3-1001 of the Natural Resource Article Nuisance Flooding is high tide flooding that causes a public inconvenience

This type of flooding typically relates to ponding of water in low lying area that cause road closures and public inconveniences. Maps and data sources for collecting nuisance flooding locations were presented to the HMPC. Data sources that will be used to document nuisance flooding in the plan include:

- NOAA Technical Report CO-OPS 086
- MyCoast Maryland
- Anne Arundel Co Emergency Services (Road Closures)
- Annapolis Tide Gauge



Next Steps

Questions to consider for next meeting:

- How has the nature of hazard risk changed in the last five years? Is there new development?
- Are the current resources to implement mitigation actions sufficient?
- Are the fiscal, administrative, political, public support, capability, sufficient?
- Overall, what are the biggest obstacles to completing mitigation actions?

Prior to the next meeting, a follow-up capabilities survey will be issued to HMPC members. This survey will review the planning, regulatory, administrative, technical/financial, and education/outreach capabilities that the County and municipalities have in place. We will determine if there are gaps and determine if resources are sufficient to implement mitigation actions.

A mitigation strategy workbook will also be issued to HMPC members prior to the January workshop to provide them with review material and project ideas coming into the meeting.

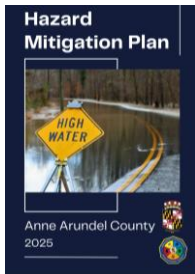
Hazard Mitigation Plan Timeline	
Task	Dates
Full Project Timeline	April 2024 – February 2025
Kick Off Meeting	April 25, 2024
Mid-Point Meeting	December 2024
Mitigation Strategy Workshop	January 2025 – 6hr (Location TBD)
Deliver to MDEM/FEMA for Review	February 2025
Distribute to Highland Beach for Adoption	May 2025

Contact Information

Kerry Topovski - emtopo22@aacounty.org
 Alex Sperling - emsper23@aacounty.org
 Mark James - mark.james@mbakerintl.com
 Virginia Smith - vsmith@smithp-d.com

ATTACHMENT #4

Mitigation Solutions Workshop



Mitigation Solutions Workshop

February 26, 2024
9:00 AM – 3:00 PM

1

Today's Workshop Agenda

- Welcome!
- Guest Speakers
 - Marcia Barben, Hazard Mitigation Project Officer, MDEM
 - Dana Reiss, Sr. Program Director, DNR
- Nuisance Flood Plan Update & Group Mapping Activity
- Project Updates & 2025 HMP Goals and Objectives Session
- **Lunch**
- Mitigation Action Development Session
- Group Reports & Action Prioritization Session
- Next Steps & Workshop Adjournment

2

Nuisance Flooding Plan Update



2025 Nuisance Flood Plan Update

3

What is Nuisance Flooding?

- The definition of **nuisance flooding** in accordance with §3-1001 of the Natural Resource Article is *"high tide flooding that causes a public inconvenience."*
- Low-lying areas are vulnerable to the increased frequency of nuisance flooding, which leads to a public inconveniences, such as the closure of roads or water in buildings.
- In Maryland, tidal flooding events typically occur when southerly winds drive water up the Chesapeake Bay or when north-east winds raise water levels along the Atlantic coast, particularly if this coincides with high tides. Such nuisance flooding events, sometimes called "high tide" flooding, are increasing in frequency around the United States as sea level rises.

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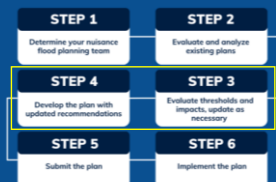
Nuisance Flooding Plan Update

New 2024 Nuisance Flood Plan Guidance



The 2024 Nuisance Flood Plan Guidance suggests a six step process for approaching the 2025 update.

STEP BY STEP FLOWCHART



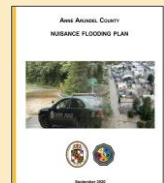
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Nuisance Flooding Plan Update

- The 2025 Nuisance Flooding Plan is an update to the existing 2020 Nuisance Flooding Plan.

• The Plan:

- ✓ Describes sources of flooding (fluvial, pluvial, riverine)
- ✓ Analyzes documented reports (2020 – 2025)
- ✓ Identifies vulnerable community resources
- ✓ Identifies underserved and overburdened communities
- ✓ Determines extent of plan integration
- ✓ Prioritizes flooding areas for **mitigation action**
- ✓ Creates a process for communicating increasing flood risk
- ✓ Evaluates existing policies and ordinances
- ✓ Identifies potential funding sources



6

Nuisance Flooding Planning Team

- The County used their Hazard Mitigation Planning Committee (HMPC) to serve as the Nuisance Flood Planning Committee.
- Updates to both plans are occurring at the same time.
- The NFP will be integrated into the Flood Hazard section.
- Nuisance flood specific mitigation actions developed.
- Members of the planning committee represent a cross-section of departments, agencies, and representatives. The Anne Arundel County Office of Emergency Management serves as the lead agency for this plan update.


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Nuisance Flooding Data Sources

- For this plan update, various sources of information were obtained to determine locations of nuisance flooding:
 - Previous listing of known flood hazard areas (Appendix I & II of 2020 Plan)
 - 2021-2024 Emergency Service Requests (ESR) Road Closures dataset (OEM)
 - Most recent reports from Maryland MyCoast for Anne Arundel County
- Datasets were utilized to identify nuisance flood high risk areas.
 - Location, cause (high tide or storm), distance from tide gauge, # of events and date, range of observed peak
 - Resulting database and mapping

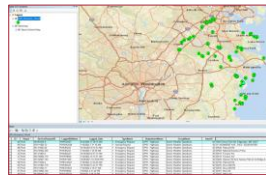
8

Nuisance Flood Data Sources

- **MyCoast Maryland** 
- Anne Arundel County Emergency Service Request (ESR) Road Closures
- Annapolis Tide Gauge



MyCoast



ESR Road Closures



Tide Gauge

Nuisance Flooding – Group Activity

- MyCoast reports for flooding in the previous 5-year timeframe have been mapped for review by committee members.
- **Purpose:** MyCoast data needs to be validated to the best extent possible to determine if identified roadways are, in fact, subject to regular nuisance flooding.

GOAL: The purpose of the following group activity is to **confirm** locations of nuisance flooding and to **identify new areas** of nuisance flooding that have not been captured by the data.

9

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Nuisance Flooding – Group Assignments

Group 1	Group 2	Group 3	Group 4	Group 5
Michael Jette Alex Bague Jay Leshinski Shannon Hojnowski Kristina Alexander Crystal Chissell Kelly Kintez Janssen Evelyn	Kerry Topovski Andrew McCarra Matt Lawyer Erin Dey Christina Pompa Hannah Dier	Alex Sperling Donnie Green Jason Fetterman Nicole Clinton Major Hasenpusch Rodney Tasker Debbie Saylor	Greg Novak Captain Tim Davis Karen Taylor Joelle Ridgeway Asha Smith Jonathan Boniface Kim Fisher	Erik Michaelson Sally Albright Captain Dan Rodriguez Nolley Fisher Pam Brown

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Nuisance Flooding – Group Activity

STEPS:

1. Members have been assigned to groups.
 - The County has been divided into a grid pattern, and each group will review a different section of grids.
2. Assign a **scribe** for your group. The scribe will write all modifications and notes on the provided **large 11x17 map**. This copy will be what you turn in.
3. Each group member will get a **Map Packet** with street-level detail to show you locations of flood reports from MyCoast. Impacted roadways are shown in **red**, and reported locations are shown with a yellow dot. 

Handouts

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Nuisance Flooding – Group Activity

STEPS CONTINUED:

4. In your groups, review each map grid in the order in which they are provided in your packets. Remember: all markups and comments should be on the Scribe's copy (11x17)
5. Yellow dots represent documented flooding MyCoast reports. Roadways nearby (within a 300-foot buffer) have been highlighted in **red** for additional verification.
6. Consider the following as you review these locations:
 - Are these locations **accurate**?
 - Have any locations been **missed**?
 - How can nuisance flooding at these locations be **mitigated**?
7. **Identify specific sections of roadway that experience nuisance flooding with a marker.**
8. On the provided listing, place a check mark ☒ next to the roadways your group has validated as experiencing nuisance flooding.

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Nuisance Flooding – Group Report Out

Preparing for Group Report Out:

- How many roadways or sections of roadways did your group verify as nuisance flooding locations?
- Did you identify any **new** roadways that experience nuisance flooding in the areas that your group reviewed?
- Did your group identify any potential **mitigation actions** to address nuisance flooding?
- Any other relevant information?

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BREAK

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Hazard Mitigation Project Overview



2025 Hazard Mitigation Plan Update

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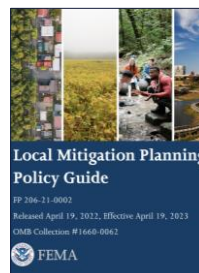
Project Overview

Hazard mitigation is any action taken to permanently reduce or eliminate long-term risk to people and their property from the effects of hazards.

The **Hazard Mitigation Plan** forms the foundation for the County and its community's long-term strategy to reduce disaster losses and break the cycle of disaster damage, reconstruction, and repeated damage.

The purpose of this plan is to identify, plan, and implement cost-effective hazard mitigation measures through a comprehensive approach known as hazard mitigation planning. This plan is an **update** to the **2018 Anne Arundel County Hazard Mitigation Plan**. The Federal Emergency Management Agency (FEMA) requires hazard mitigation plans to be updated every five years.

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- New guidance and update FEMA Plan Review
- Representatives of nonprofit organizations, including community-based organizations, that work directly with and/or provide support to underserved communities and socially vulnerable populations, among others:
 - Examples include housing, healthcare or social service agencies.
- An **opportunity to be involved** in the planning process means that these stakeholders are invited to be engaged or are asked to provide information or input to inform the plan's content. Different communities may necessitate more targeted outreach and engagement, especially underserved communities.
- The plan must document how the public had an opportunity to be involved in the current planning process, and what that participation entailed, including how underserved communities and vulnerable populations within the planning area were provided an opportunity to be involved.

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Project Update



2025 Hazard Mitigation Plan Update

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HMPC Meetings

- Kick-off meeting with HMPC members
- Small Group Topical Meetings:
 - ✓ Social Equity
 - ✓ Floodplain Management
 - ✓ Resilience Authority
- Midpoint Meeting – Risk Assessment & Capabilities

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Public Outreach

- OEM Outreach efforts have included:
 - Small Group/Topical Meetings
 - OEM Attendance at Community Events
 - Public Outreach Meetings (virtual and in-person)
 - Media Releases
 - [Project website](#) updates
 - Email Updates
 - Public Surveys



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Community Events

- Outreach Efforts To Date:

Location or Event	Date
River Days Outreach Event – Annapolis Museum	June 29
Kinder Farm Park Community Fair	June 30
Deale Community Library (ShadySide Deale Climate Adaptation Study)	July 17
National Night Out	August 6
Bayview Fireworks Touch a Truck	August 10
River Days Outreach Event – West River Center	August 11
Captain Avery Museum (ShadySide Deale Climate Adaptation Study)	August 13
LEPC Meeting Presentation #1	September 9
River Days Outreach Event – Ft. Smallwood Park	September 14
Meeting with Highland Beach, Mayor	September 20
Hispanic Heritage Festival	September 28

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Public Meetings

- HMP Public Meetings To Date (In-Person):

Meeting & Location	Date
Meeting #1: Linthicum Library	September 30
Meeting #2: Crofton Library	October 14
Meeting #3: Highland Beach and Surrounding Communities	October 21
Meeting #4: Edgewater Library	October 30
Meeting #5: Deale Library	November 12
Meeting #6: Maryland City, Russett Library	November 14
Meeting #7: Broadneck Library	December 3
Meeting #8: Office of Emergency Management Auditorium	December 11

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BRIC Grant Awards

- Shady Side Peninsula Climate Adaptation Study – BRIC 2021-11
- Anne Arundel County Roadway Vulnerability Assessment – BRIC 2020-2

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Recent Event Highlight – Mayo Gas Leak

Friday, January 17, 2025 @ 4:00 PM

- Mayo Road (Rt. 214) was shut down for about 10 hours in both directions due to a BGE gas line leak at the intersection of Rt. 214 and Muddy Creek Road.
- Residents on the Mayo peninsula were unable to get home or pick-up their children from day care due to the hazard shutting down ingress/egress for all residents on the Mayo peninsula.



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Public Surveys

- Two public surveys have been circulated during the plan update.
- [SurveyMonkey](#):
 - Gather the public's perspective on hazards identified in the plan, as well as additional information such as mitigation strategy preferences.
 - Paper copies and drop box for in-person outreach events
 - English and Spanish versions available
- [ArcGIS Survey123](#):
 - For use at public meetings to identify **specific hazard locations** virtually on a map.

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Preliminary Public Survey Results



2025 Hazard Mitigation Plan Update

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Hazard Perspective Survey

- This survey is being used to collect participant insight and perspective on hazards identified in the plan.
- 20 Questions



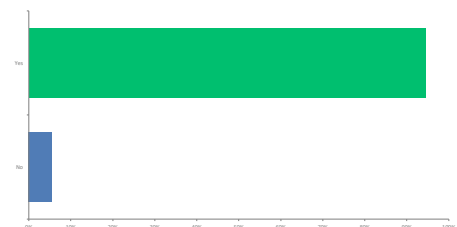
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Hazard Perspective Survey

- To date, 192 surveys are completed.
- Hard copy surveys completed and obtained during public meetings were entered into online survey platform.
- HMPC member assistance is needed. Please repost and/or share the survey link.

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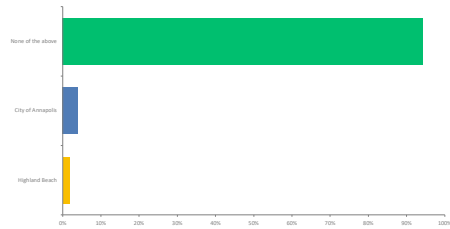
Q1: Are you a resident of Anne Arundel County?



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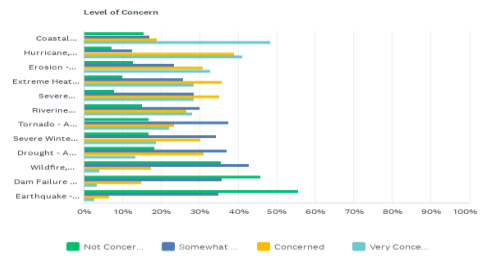
Q2: If you live in a municipality, please indicate which municipality below.



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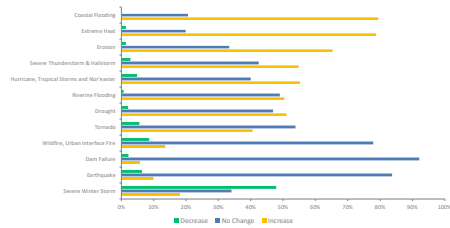
Q5: Please indicate your level of concern for each hazard using the drop down menu.



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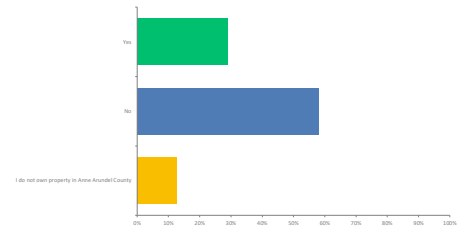
Q6: Over the last 10 years, have you noticed an increase or decrease in the frequency or intensity of any of the following hazards?



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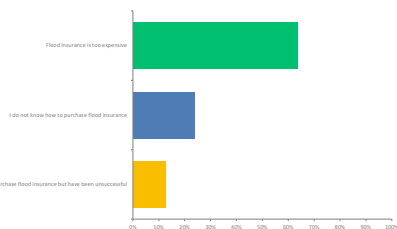
Q8: If you own your home or commercial property, do you have flood insurance?



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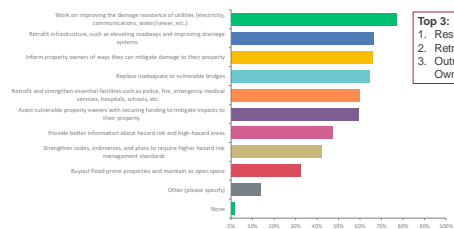
Q9: If "No", what is the primary reason why you do not carry flood insurance?



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Q13: Which of the following mitigation project types do you believe should be focused on to reduce disruptions of services and strengthen the community? (Select all that apply)

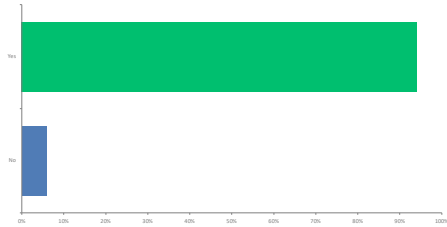


Top 3:
1. Resilient Utilities
2. Retrofit Infrastructure
3. Outreach To Property Owners

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Q14: Do you support policies to restrict or prohibit development in designated hazard zones?



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Mitigation Strategies Status Report



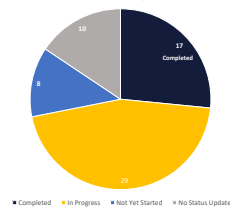
2025 Hazard Mitigation Plan Update

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Mitigation Strategies Status Report Results

- Mitigation Action items included in the 2018 Plan were reviewed by lead departments and received a status update.
- 64 Mitigation Action Items were reviewed in total.
 - 17 "Completed"
 - 29 "In Progress"
 - 8 "Not Yet Started"
- Goals and Objectives were also reviewed.

Status of Mitigation Strategies for 2025 Plan Update



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Mitigation Strategies Status Report: Completed Action Items



1. Acquire repetitively flooded structures and non-repetitive loss structures
2. Cape St. Claire-Stormwater Runoff Controls
3. Create a plan for cooling centers and shelters
4. Create and build upon cooperative relationships with news media outlets for distributing information about All Hazards and future HMP updates
5. Create cooperative relationships with news outlets for distributing information about winter storms
6. Develop coordinated interagency debris removal plan
7. Encourage citizens and County personnel to take CERT course
8. Ensure adequate plans, procedures, and capabilities to respond to a dam failure
9. Establish a relationship with BGE to reduce power outages
10. Harmons Road Culvert replacement
11. Identify roles and responsibilities of County response agencies
12. IPAWS certification
13. Maintain public awareness and education campaigns for all hazards
14. NWS StormReady program
15. Promote use of NOAA "All Hazards" radios for early warning and post-event information to critical facilities
16. Shipley's Choice Dam Rehab
17. Update General Development Plan, Plan 2040

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Goals and Objectives



2025 Hazard Mitigation Plan Update

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Goals and Objectives - Review

- Prior to developing mitigation actions, we will review your HMP's current Goals and Objectives.

What is a mitigation **goal**?

- Mitigation goals are broad, overarching desired outcomes to reduce disaster impacts.

What is a mitigation **objective**?

- Mitigation objectives are more specific and help focus each goal.

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Goals and Objectives - Review

Directions:

Handout

1. Please review the goal and objectives listed on your **handout**.
*Note: Proposed goals and objectives are identified in **yellow highlight**.*
2. Discuss goals and objectives as a group:
 - a) Upon consensus, please have your **scribe** "mark-up" one group copy for collection at the end of this session.
 - b) Keep in mind, group members may "mark-up" their own copy as they individually review the goals and objectives in preparation for the group discussion.
 - c) Only the copy completed by the designated group **scribe** will be collected at the end.

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Goals and Objectives - Review

Directions:

3. Mark-up by the **scribe** includes:
 - a) Draw a line through any existing or proposed goal and/or objective that your group feels should be removed for the 2025 Anne Arundel County Hazard Mitigation Plan.
 - b) For **modifications** to an existing or proposed goal or objective please use the **blue** box provided under each goal and associated objective sections. Remember to identify the goal # and/or objective #, then re-write with your modification(s).
 - c) Add any **new** goal and/or objective identified by your group in the **green** box.

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LUNCH BREAK

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Mitigation Solutions Workshop



2025 Hazard Mitigation Plan Update

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Goals for this Workshop

- Mitigation actions must be included for each hazard identified in the HMP. FEMA policy guide indicates (1) per hazard, ideally (2) per hazard. This includes both the County and Highland Beach.
- *Note: The City of Annapolis developed and adopted its own plan.*

A **mitigation action** is a measure, project, plan or activity proposed to reduce current and future vulnerabilities described in the risk assessment.

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Goals for this Workshop

- Must include a comprehensive range of actions that participants considered to specifically address vulnerabilities identified in HMP.
 - Proposed mitigation actions that you will be working on today include reference materials, including pages with narrative, maps, and figures from the HMP working draft for your use.
 - Any new mitigation proposed should be shared with Eric Messick. He will help you find reference materials, as needed.

A **mitigation action** is a measure, project, plan or activity proposed to reduce current and future vulnerabilities described in the risk assessment.

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Goals for this Workshop

- Be mindful that the range of actions considered should include mitigation actions that benefit underserved communities and socially vulnerable populations.
 - Some of the proposed mitigation actions that you will be working on today include mitigation actions that benefit underserved communities and socially vulnerable populations.
 - Include for each hazard identified.

A **mitigation action** is a measure, project, plan or activity proposed to reduce current and future vulnerabilities described in the risk assessment.

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Mitigation Workshop

- You will work in your current groups.
- Each group will work on various proposed mitigation actions.
- All information to complete this group work will be provided.
- Short instruction sheets for both mitigation action development and group report outs will be provided.

This is a collaborative discussion-based workshop.

- New ideas, comments, and additional information provided that informs the development of mitigation actions is encouraged!
- Please feel free to take a refreshment and/or restroom break, as needed.

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Workshop Instructions

- Make sure your group has an assigned **scribe**. The scribe will provide all written group contributions to us at the end of the workshop.
- *Note: You can use the same scribe or select a new scribe.*
- All materials will be provided in clear plastic holder that Eric will distribute to each group.

Handout

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Workshop Instructions

- Start with just one hazard. Each of the hazards that your group will work on are included in the hazard specific file folders. Your group will have mitigation action sheets for each group member, and several packets of reference material.

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Workshop Instruction Sheet

- Please pass the instruction sheet to each group member.
- Located in the front of file folders in the clear plastic holder.

Any questions?

Instructions

Step 1: For each hazard, consider Goals and associated Objectives. Review and comment as applicable.

Step 2: Consider each action item. Refer to background and reference materials. Review and comment as applicable.

- If you do not agree with the inclusion of this action item, please put an "X" through it.
- If you agree with keeping the action item, add any comments directly on the form. Use the back if you decide to rewrite action.

Step 3: Fill in information under **build like text**.

Action Types: Use one of the following 4 types of mitigation actions:

- Local Planning and Regulations
- Structure and Infrastructure Projects
- Education and Awareness Programs
- Natural Systems Protection

Implementation Schedule: Keep in mind this is a five (5) year planning cycle.

Estimated Cost: Please use your best judgement. If staff time only, please write staff time.

Potential Funding: Please use your best judgement. (Refer to funding sources packet)

Lead: Who is the lead for this action item?

Community (Link): What is the primary community (link) associated with this action? (Refer to Community Linker handbook)

Social Vulnerability: Consider social vulnerability for each action item.

Inclusion/Exclusion: Indicate County and any municipalities that may be included, if any.

Step 4: Review action item for each hazard. Are each of the participating municipalities included in at least (2) of the mitigation actions for each hazard?

Step 5: Indicate (Yes or No) if this action item "resonates" with your group and should be selected for further prioritization. Please submit at least three (3) action items for further consideration.

BREAK

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Group Report Out



2025 Hazard Mitigation Plan Update

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Preparing for Group Report – Gather the following information.

1. Identify one **speaker** to give your group report.
2. Determine the actions which most “resonated” with your group (at least 3). These actions will be further prioritized.

Note: You will be provided with a handout that lists all action items and helps you keep track of which action items were developed and selected for prioritization.

Handout

Questions to Consider:

1. What hazards did your group address during the workshop?
2. How many action items did your group further develop?
3. Which **3 actions** did your group determine “resonated” the most and should move on to further prioritization?
4. Provide any additional information your group feels is important on each action for the other workshop participants who were not in your group.
5. What was the most challenging part and best part of the workshop for your group?

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Group #1 Report

1. What hazards did your group address during the workshop?
2. How many action items did your group further develop?
3. Which **3 actions** did your group determine “resonated” the most and should move on to further prioritization?
4. Provide any additional information your group feels is important on each action for the other workshop participants who were not in your group.
5. What was the most challenging part and best part of the workshop for your group?

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Group #2 Report

1. What hazards did your group address during the workshop?
2. How many action items did your group further develop?
3. Which **3 actions** did your group determine “resonated” the most and should move on to further prioritization?
4. Provide any additional information your group feels is important on each action for the other workshop participants who were not in your group.
5. What was the most challenging part and best part of the workshop for your group?

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Group #3 Report

1. What hazards did your group address during the workshop?
2. How many action items did your group further develop?
3. Which **3 actions** did your group determine “resonated” the most and should move on to further prioritization?
4. Provide any additional information your group feels is important on each action for the other workshop participants who were not in your group.
5. What was the most challenging part and best part of the workshop for your group?

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Group #4 Report

1. What hazards did your group address during the workshop?
2. How many action items did your group further develop?
3. Which **3 actions** did your group determine “resonated” the most and should move on to further prioritization?
4. Provide any additional information your group feels is important on each action for the other workshop participants who were not in your group.
5. What was the most challenging part and best part of the workshop for your group?

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Group #5 Report

1. What hazards did your group address during the workshop?
2. How many action items did your group further develop?
3. Which **3 actions** did your group determine "resonated" the most and should move on to further prioritization?
4. Provide any additional information your group feels is important on each action for the other workshop participants who were not in your group.
5. What was the most challenging part and best part of the workshop for your group?

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Action Prioritization Session



2025 Hazard Mitigation Plan Update

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Action Item Prioritization Session

- In your groups, you identified at least **3 action items** for further prioritization.
- During group report out, we took note of which action items each group selected for further prioritization.
- The basis for this prioritization is the **STAPLEE** evaluation method, which uses standard criteria for evaluation.

Criteria:
Social
Technical
Administrative
Political
Legal
Economic
Environmental

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Action Item Prioritization Session

- This evaluation was modified to a user-friendly survey that facilitates ease of interpretation and participation.
- The survey consists of six (6) questions, which corresponded to a point system for prioritization purposes.
- Answer all 6 question for each action item selected for prioritization:
 - Yes
 - No
 - Null

Handout

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Prioritization Session Worksheet

Item #	Item Description	Priority	Impact	Cost	Feasibility	Stakeholder Support	Overall Score
1
2
3

Prioritization Session Worksheet

1. Do you think this would be a reasonable expenditure of resources for this mitigation project? Yes No Null

2. Do you think implementation of this mitigation project will enhance the health and safety of the community? Yes No Null

3. Do you think the benefits of this mitigation project will exceed the likely cost? Yes No Null

4. Do you think the implementation of this project will be affordable and not provide an undue burden on the County? Yes No Null


5. Is this project consistent with local and regional goals? Yes No Null

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Next Steps

- Distribution of Meeting Notes
- Cohesive Draft Plan for HMP Review & Comment
- Draft HMP for Public Review & Comment
- Draft HMP for MDEM Review & Comment
- Draft HMP for FEMA Review & Comment
- Final Draft for FEMA Submittal
- FEMA Approved Pending Adoption (APA) Letter
- Final Draft for HMP Public Review & Comment (formal public comment period, part of Plan Adoption)
- Final HMP for County & Municipal Adoption
- Submit County & Municipal Adoption Documentation to FEMA

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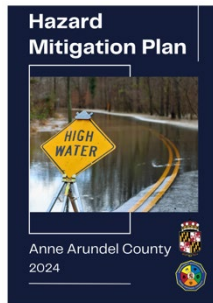


Thank You!

Mark James, MBI
mark.james@mbakerintl.com

Eric Messick, SP&D
emessick@smithp-d.com





Mitigation Solutions Workshop Hazard Mitigation Planning Committee February 26, 2025, 9:00 AM – 3:00 PM

Attendees

Anne Arundel County Hazard Mitigation Planning Committee (HMPC) Members:

Kristina Alexander, Resilience Authority
Alex Baque, DPW
Marcia Barben, MDEM
Randi Barclay, PCYF
Jonathan Boniface, Economic Development
Crystal Chissell, Town of Highland Beach
Jesse Delph, MDEM
Janssen Evelyn, Office of the County Exec.
Jason Fetterman, Office of Law
Kimberly Fisher, OEM
Nolley Fisher, Recreation and Parks
Herb Hasenpusch, Police
Michael Jette, OEM
Kelly Krintez, OPZ
Matt Lawyer, OCS/FMD
Blake Lightcap, DPW

Andrew McCarra, I&P
Erik Michaelson, DPW
Greg Novak, Fire Department
Christina Pompa, OPZ
Dana Reiss, DNR
Debbie Saylor, DOH
Alexander Sperling, OEM
Michael Stringer, OPZ
Kerry Topovski, OEM
Dave Ziff, MDEM

Mark James, Michael Baker
Eric Messick, Smith Planning & Design

Virtual Attendees:

Nicole Clinton, Office of Central Services
Greg Swain, Office of Law
Kelly Mackall, Aging & Disabilities

Welcome and Presentations

Kerry Topovski, Project Development Administrator of the Anne Arundel County's Office of Emergency Management (OEM) welcomed committee members to the mitigation solutions workshop and introduced presenters: Marcia Barben – MDEM, Dave Ziff – MDEM, Dana Reiss – DNR. Presenters focused on explaining hazard mitigation and related project funding/grant opportunities at the federal and state level. Additionally, Joshua Norris (FEMA) was able to speak a few words in the afternoon regarding the importance of hazard mitigation planning.

Following presentations, Eric Messick went over the meeting agenda, as included below.

- Welcome!
- Guest Speakers
 - Marcia Barben, Hazard Mitigation Project Officer, MDEM
 - Dave Ziff, MDEM
 - Dana Reiss, Sr. Program Director, DNR
- Nuisance Flood Plan Update & Group Mapping Activity

- Project Updates & 2025 HMP Goals and Objectives Session
- **Lunch**
- Mitigation Action Development Session
- Group Reports & Action Prioritization Session
- Next Steps & Workshop Adjournment

Nuisance Flood Plan Update and Group Mapping Activity

The Nuisance Flood Plan (NFP) and Hazard Mitigation Plan updates are occurring during the same timeframe. The County utilizes its HMPC as its Nuisance Flood Committee. Therefore, in consideration of the NFP update time schedule and the committee's time, a portion of the workshop was dedicated to identification and verification of nuisance flooding locations.

The definition of **nuisance flooding** in accordance with §3-1001 of the Natural Resource Article is *"high tide flooding that causes a public inconvenience."*

The Nuisance Flood Plan utilizes several data sources to identify nuisance flooding locations in the County, including the existing database of nuisance flood locations (from the 2020 NFP), as well as data gathered from the OEM's Emergency Service Requests Road Closure database.

Local MyCoast Report data has been gathered during the NFP update to identify potential new locations of nuisance flooding. During the workshop, committee members were divided into five working groups. MyCoast reports for flooding in the previous 5-year timeframe were mapped for review by committee members. The **purpose** of the mapping exercise is to validate the MyCoast data, to the best extent possible, to determine if identified roadways from MyCoast reports are nuisance flooding locations. The activity also served to identify new areas of nuisance flooding that were not captured by MyCoast data.

Nuisance Flooding Mapping Exercise Overview:

Working in five groups, each assigned group reviewed a designated section of the county, divided into a grid pattern. A scribe was selected to document all modifications and notes on the provided 11"x17" map, which was submitted at the end of the exercise. Each member received a Map Packet with street-level details highlighting reported flood locations (yellow dots) and impacted roadways (red lines). Groups systematically reviewed each grid, ensuring all comments and markups were recorded on the scribe's copy. Members verified the accuracy of reported locations, identified any missing areas, and considered possible mitigation measures. Specific sections of flood-prone roadways were to be marked, and validated roadways checked off on the provided listing.



Example of an 11"x17" map used for the group exercise.

Following the exercise, each group reported out the number of roadways they verified as nuisance flooding, identification of any new nuisance flooding roadways, and if the group identified any potential mitigation actions to address nuisance flooding at identified locations.

Note: Results of the mapping exercise, including the identified of new nuisance flood locations, will be integrated into the Nuisance Flood Plan as part of the plan update.

Hazard Mitigation Project Overview

Hazard Mitigation, the definition and why a Hazard Mitigation Plan is needed was reviewed. New FEMA guidance on local plan review released in April 23 was also reviewed:

Hazard mitigation is any action taken to permanently reduce or eliminate long-term risk to people and their property from the effects of hazards.

The **Hazard Mitigation Plan** forms the foundation for the County and its community's long-term strategy to reduce disaster losses and break the cycle of disaster damage, reconstruction, and repeated damage.

The Federal Emergency Management Agency (FEMA) requires hazard mitigation plans to be **updated every five years**. This plan is an update to the 2018 Anne Arundel County Hazard Mitigation Plan.

New Guidance: https://www.fema.gov/sites/default/files/documents/fema_local-mitigation-planning-policy-guide_042022.pdf

Project Updates

During this plan update OEM has undertaken a number of public outreach efforts. Project updates were presented for Public Outreach opportunities and Survey Results.

Public Outreach Efforts:

- Attendance at 11 public events occurring from June 29 through September 28.
- Held 8 public meetings across the County from September 30 through December 11.
- Circulated two public surveys that utilized Survey Monkey and ArcGIS123 to gather public perspectives on hazards and location of flooding across the County.
 - Hazard Perspective Survey: Preliminary results collected to date were presented at the meeting. As of March 3, 2025, 194 members of the public have taken the online survey.
 - Hard copy surveys completed and obtained during public meetings were entered into the online survey platform.

Note: Full survey results will be available as an appendix to the HMP.

Other forms of outreach and coordination included HMPC Meetings and Small Group Topical Meetings:

- Social Equity – June 24, 2024
- Floodplain Management – June 24, 2024
- Resilience Authority – July 22, 2024
- Risk Assessment & Capabilities Meeting – December 5, 2024

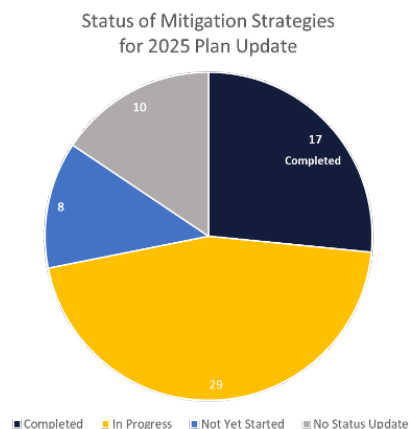
Press Release, Social Media Post, and OEM webpage updates (new content uploaded periodically).

Status of 2018 Mitigation Strategies

Mitigation Action items included in the 2018 Plan were reviewed by lead departments and received a status update. These updates were presented at the meeting:

- 64 Mitigation Action Items were reviewed
- 17 “Completed”
- 29 “In Progress”
- 8 “Not Yet Started”

Action items **completed** in the previous 5 year planning cycle are shown below:



- Acquire repetitively flooded structures and non-repetitive loss structures
- Cape St. Claire-Stormwater Runoff Controls
- Create a plan for cooling centers and shelters
- Create and build upon cooperative relationships with news media outlets for distributing information about All Hazards and future HMP updates
- Create cooperative relationships with news outlets for distributing information about winter storms
- Develop coordinated interagency debris removal plan
- Encourage citizens and County personnel to take CERT course
- Ensure adequate plans, procedures, and capabilities to respond to a dam failure
- Establish a relationship with BGE to reduce power outages
- Harmans Road Culvert replacement
- Identify roles and responsibilities of County response agencies
- IPAWS certification
- Maintain public awareness and education campaigns for all hazards
- NWS StormReady program
- Promote use of NOAA “All Hazards” radios for early warning and post-event information to critical facilities
- Shipley’s Choice Dam Rehab
- Update General Development Plan, Plan 2040

Goals and Objectives

HMPC members reviewed the plan’s current goals and objectives prior to review and development of mitigation strategies. Goals and objectives were first reviewed individually, then reviewed and discussed in groups. Groups were tasked with adding new goals and/or objectives and modifying or removing goals and objectives. Goals and objectives reviewed by the HMPC will be made available for review in the mitigation strategies section of the Draft Hazard Mitigation Plan.

Mitigation **goals** are broad, overarching desired outcomes to reduce disaster impacts.

Mitigation **objectives** are more specific and help focus each goal.

Mitigation Solutions Work Session

Mitigation action items were developed for the workshop and grouped by hazards. At least two mitigation action items were developed for each hazard. Committee members reviewed action items in the following groups:

- Group 1: Flood, Dam Inundation, and Coastal Hazards
- Group 2: Hurricane, Tropical Storm & Nor’easter, Winter Storm, Thunderstorm, and Tornado
- Group 3: Civil Disturbance & Active Assailant, Transportation Accidents, Cyber Attack, and Emerging Infectious Diseases

- Group 4: Drought, Extreme Temperatures, and Wildfire
- Group 5: Soil Movement Earthquake, and Erosion

In total, HMPC members working in these groups reviewed **63 mitigation action items**. Of these, 40 action items were further developed for inclusion in the plan update.

The HMPC also added 6 new mitigation action items (3 flood hazard, 1 tornado hazard, and 2 erosion hazard), and several new action items are under consideration from the Resilience Authority related to flooding and nuisance flooding.

Note: The Town of Highland Beach was represented in Group 1.

Each assigned group collaborated on proposed mitigation actions categorized by hazard type. All necessary information, including reference materials and plan excerpts, were provided to support the work. Short instruction sheets were provided to guide both mitigation action development and group report-outs. Each group designated a scribe responsible for submitting all written contributions at the workshop's conclusion. Groups were encouraged to focus on a single hazard at once, using hazard-specific file folders containing mitigation action sheets for each member and multiple reference material packets.

Following the group work session, each group's speaker reported out:

- What hazards did your group address?
- How many action items were reviewed?
- Which 3 action items resonated the most with the group?
 - These action items are identified for further prioritization.
 - Committee members were provided a reference list of all 63 action items, by hazard, to keep track of which hazards were identified for further prioritization.

Note: Results of the work session will be integrated into the mitigation solutions section of the draft Hazard Mitigation Plan for review.

Action Item Prioritization Session

Each group identified at least 3 action items for further prioritization. These items were noted during the group report out. These action items will be further prioritized based upon a modified STAPLEE evaluation criterion. STAPLEE considers: Social, Technical, Administrative, Political, Legal, Economic, and Environmental Factors.

The method has been modified to a more user-friendly survey that consists of 6 questions that correspond to a point system for prioritization purposes. There were a total of **19 action items** selected for further prioritization. Individually, participants completed the 6 STAPLEE questions for each of these action items.

Note: Results of the prioritization will be included in the mitigation strategies section of the draft Hazard Mitigation Plan. Action items with a higher score will be indicated as higher priority.

Prioritizing Selected Mitigation Actions		
Answer Yes, No, or Null to Each Question		Circle One
<div>Project Number</div> <div> <div>ADD PROJECT NUMBER HERE</div> </div>	1. Do you think there would be community acceptance/general support for this mitigation project?	Yes No Null
	2. Do you think implementation of this mitigation project will enhance the health and safety of the community?	Yes No Null
	3. Do you think the community will be able to sufficiently staff and/or provide technical support to implement this mitigation project?	Yes No Null
	4. Do you think the benefits of this mitigation project will exceed the likely costs?	Yes No Null
	5. Do you think the maintenance requirements for this option will be affordable and not provide an undue burden on the County?	Yes No Null
	6. Is this project consistent with environmental goals?	Yes No Null

Example of prioritization questions (modified STAPLEE) for action items. This process was completed by each participant for all 19 selected action items.

Next Steps

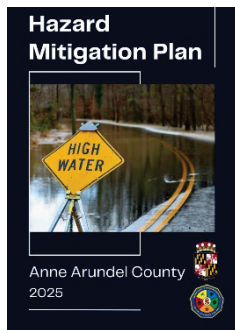
- Distribution of Meeting Notes
- Review of Nuisance Flood actions and/or recommendations
- Identify action items for roadways/areas of most concern
- Cohesive Draft Plan for HMPC Review & Comment
- Draft HMP for Public Review & Comment
- Draft HMP for MDEM Review & Comment
- Draft HMP for FEMA Review & Comment
- Final Draft for FEMA Submittal
- FEMA Approved Pending Adoption (APA) Letter
- Final Draft for HMP Public Review & Comment (formal public comment period, part of Plan Adoption)
- Final HMP for County & Municipal Adoption
- Submit County & Municipal Adoption Documentation to FEMA

Contact Information

Kerry Topovski - emtopo22@aacounty.org
 Alex Sperling - emsper23@aacounty.org
 Mark James - mark.james@mbakerintl.com
 Eric Messick – emessick@smithp-d.com
 Virginia Smith - vsmith@smithp-d.com

APPENDIX B

OEM Planning Team Biweekly Meeting Minutes



Hazard Mitigation Planning Team Meeting 1.

May 9, 2024
10:00-11:00am
Zoom Meeting

Attendees

Kerry Topovski, OEM
Alex Sperling, OEM
Preeti Emrick, OEM

Mark James, MBI
Sara Curry, MBI
Virginia Smith, SPD
Eric Messick, SPD

Project Update

- The Doodle poll closed May 8th to determine the best time to host the two special topic group meetings (NFIP and Equity).
 - The schedule for the Group meetings:
June 24, 1:00-2:00 Social Equity/Vulnerability group (via Zoom)
June 25, 2:00-3:00 Floodplain Management group (via Zoom)
- Update on Stakeholder list by OEM:
 - OEM has exhausted our efforts to identify emails for stakeholders.
 - Mailing addresses for the remaining stakeholders need to be identified.
Question: Is this the responsibility of the Consultant?
- Discussion on group exercise from HMPC Kickoff Meeting - intended for HMPC members to indicate what natural hazards have increase, decreased or showed no change.
- Due to low response on non-natural hazards and discussion during this meeting, the main non-natural hazards that have been identified include:
 - Civil Disturbance/Active Assailant
 - Transportation Accidents
 - Emerging Infectious Disease
 - Cyber Attack

Schedule & Meetings

- A question was raised about scheduling community outreach meetings to see if there are specific dates in August and October that would be preferred.
- Discussed options that stakeholders meeting could be planned as part of a mutual event with other organizations and or departments.

Outreach

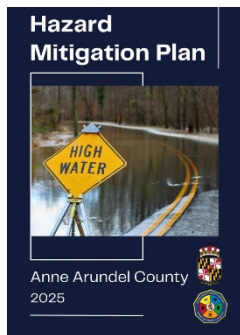
- Preparing draft Press Release, which will include:
 - Four bullet points on how residents can get involved
 - Public outreach survey
 - QR code that links to the website
- Discussion on creating a social media post that includes the public outreach survey.
 - OEM is requesting that a complete packet is provided for internal review of all public outreach materials that are intended to be used for the HMP 2025 update including the draft press release announcing the launch of the HMP 2025 update; the suggested look and content of the HMP 2025 update landing page; flyers, handouts, etc.
 - Provide all public outreach materials to OEM in a file format that is editable including social media graphics, Facebook posts so OEM can make modifications, as needed.
- Preparations will soon begin for the launch of the website; this website will be pushed out to all stakeholders involved in the planning process.
 - Link where HMP 2025 update landing page will live:
<https://www.aacounty.org/emergency-management/disaster-mitigation>
- Discussed a community outreach meeting and having that meeting during an open house to ensure more participation. It is common to coordinate with other organizations for these types of meetings. This community outreach meeting could occur later in the summer when we have collected more data/information and graphics.
 - Public meeting (late August - Fall 2024): To be coordinated by OEM
Question: Is this meeting in person?
- Two events that were discussed where the public outreach meeting could happen include:
 - National Night Out
 - River Days (?)

Requests

- SPD is requesting NFIP Repetitive Loss Properties and Severe Repetitive Loss Properties data. Will want to know if floodplain permits for Highland Beach go through the county or is that a separate entity.
 - The NFIP request for RL/SRL properties was sent to our Floodplain Manager to submit to FEMA directly. OEM will confirm the submission of the County's request.
- Is there a way to possibly shorten the public outreach survey? Possibly go through the survey and pick out questions that may not be needed, the goal is to get as many accurate responses as possible and there is concern that the survey is too long and too involved – SPD will investigate and report back to the County on suggestions.

Next Steps

- OEM to review Doodle poll and schedule the two group meetings.
- SPD to send over request for NFIP Repetitive Loss Properties so that OEM can request that data from the floodplain manager.
- Start the preparations for the website location and upload.
- Future meetings
 - 1-hour meetings with OEM and the Consultant are scheduled every 2 weeks
 - Mid-point Meeting (late August - Fall 2024): To be coordinated by OEM
 - Mitigation Strategy Workshop Meeting: To be coordinated by OEM



Hazard Mitigation Planning Team Meeting

May 23, 2024
10:00-11:00am
Zoom Meeting

Attendees

Kerry Topovski, OEM
Alex Sperling, OEM
Preeti Emrick, OEM

Mark James, Michael Baker
Sara Curry, Michael Baker
Virginia Smith, Smith Planning & Design
Eric Messick, Smith Planning & Design
Michele King, Smith Planning & Design

Project Update

Continuing to work on scheduling a public meeting and workshop for later this year. A packet of public outreach material will be sent to OEM for their review and can proceed to start building out the website.

Discussed the Outreach and Engagement Plan (Appendix H).

- Section H.1.3 Equitable Outreach and Public Engagement
 - What entity will be used?
 - When doing an annual “review”, should have a preexisting entity in place that also includes underrepresented populations.
 - OEM has not met with HMPC in past 5 years to update the plan but will put in place mechanism for next 5 years.
 - Any public outreach standards?
 - ADA
- Section H.1.5
 - Dedicated email address for questions/more information?
 - Will most likely create a separate email.
 - HMPC Meeting Minutes on the website?
 - Yes, for now. Will confirm.
 - Should the working draft chapters as they are developed, along with fillable comment form be included on the website?
 - No, the working drafts should not be shared on the website.
- Section H.1.6
 - Has anyone gone before elected officials at a public meeting yet?
 - No, not public meetings.
 - This is the body that accepts the plan at the end, this needs to be documented that there was coordination with elected officials throughout the process.
- Section H.1.7
 - One page project briefing sheet to the OEM contact listing

- Newsletter?
 - OEM does have a disaster dispatch newsletter that goes out quarterly and could include project intro in the June edition and QR code link to the website/survey in the September edition.

Schedule & Meetings

There are two meetings scheduled for late June.

- June 24th at 1pm: Social equity
- June 25th at 2pm: Floodplain

Outreach

Discussed the public outreach attachments that were presented during the meeting.

- Website Suggestions
 - Change some of the verbiage.
 - Went over the general layout of the website.
- Media release
 - Introduces the topic.
 - Leads the reader to the public survey.
 - Email address for questions/comments.
 - Directs them to the project website.
 - QR Code
- Project Briefing Sheet
 - This is what would be sent out in an email or direct mailing.
 - One-pager that gives an overview of the plan/project.
- Example social medial post
 - Describes the planning process.
 - Provides a survey link.
 - Could also ask for certain individuals to share the post as well so it reaches a larger audience for feedback.
 - There will be another post with a different graphic posted again around the time of the second meeting.

Can provide the attachments as separate files so that edits and comments can be made on them (for internal use).

Requests

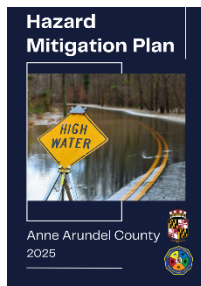
Discussed the data request excel file and how that is set up.

- Most of the data requests are GIS files.
- Agreed to delay the requesting/tracking of data until the award letter is granted.

Next Steps

- Next meeting is June 6th.
- Get the outreach materials reviewed and approved (should be the primary focus at this point).
- Delay on plan update/mapping until the grant is awarded.
- Two meetings occurring in late June.

- June 24th 1pm – Social equity
 - June 25th 2pm – Floodplain
- AACO OEM to take the lead on meeting minutes and the stakeholder list so that there is constant contact between HMPC and other organizations.
- A PowerPoint slide deck will be created for the two meetings.
 - These slide decks will be short because it will mostly contain discussion-based questions.
 - These slide decks will be sent to OEM the week of June 17th so that they can be reviewed and edited prior to the two late June meetings.



Hazard Mitigation Planning Team Meeting 3

June 6, 2024

10:00am Zoom Meeting

Attendees

Kerry Topovski, OEM
Preeti Emrick, OEM

Mark James, Michael Baker
Sara Curry, Michael Baker

Project Update

The slide decks for the two group meetings will be ready by the week of June 17th, OEM needs to the slide decks before June 20th so that they can review it. The two meetings will take place June 24th and 25th.

OEM has issued NFIP request so that any questions can be addressed during the sub-committee call.

Still have not received the 2022 FEMA BRIC grant award for the hazard mitigation plan update. We are working off of supplemental funds provided by the county until FEMA issues the award.

Post meeting discussion with MDEM conducted by MBI & SPD to determine reason for delay of this grant and other pending grants.

Schedule & Meetings

Risk Assessment Meeting:

- HMPC members only, not open to the public.
- Could be virtual or in-person.
- Midpoint meeting

Public Outreach Meeting:

- Midpoint meeting
- Will have the hazard profile done for both the public outreach and risk assessment meeting.
- Could either be virtual or in-person or both.
 - If virtual is acceptable for FEMA, then that would be preferred.
 - There have been instances of Zoom-bombing, so this meeting can be held as a seminar to prevent that from happening.
 - Questions can be sent out so that they can be addressed during the seminar.

Outreach

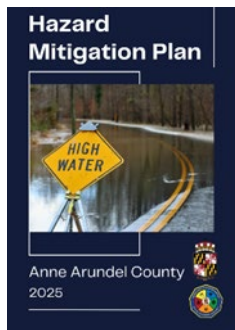
- Anne Arundel County OEM did receive the outreach packet and are still in the process of reviewing that information. Includes:
 - Website design
 - Social media post
 - Media release
 - Briefing
- OEM will decide to participate in River Days – End of June through August. Will request any material and handouts from MBI/SPD.
- Stakeholders have been added to a master list for constant contact. This will go out through email blasts or via mail if necessary. MBI is still tracking down POC email information and will update google document when complete. Coordination with Stakeholder group will be done by OEM using email blast with secondary form of communication being USPS.
- MBI will attend LEPC Meetings to brief out on plan – September and December.

Requests

- Add the mitigation actions data request to the slide decks that will be presented to the two sub committees – NFIP and Social Vulnerability.
- Data request turnaround time – typically 7-10 days for information that is readily available.
 - Might be longer if maps/data needs are not met, but we are not anticipating that happening.

Next Steps

- Will send the first hazard profile (flood) to OEM to ensure that they like the layout, the information is accurate, and the data looks good. From there the other hazard profiles can be built out.
- Reach out to Resilience Authority to get more information to fill in the resilience section of the plan.
 - OEM set meeting up for July 22 10AM.
- Can start QA/QC on some of the lighter chapters. Will send OEM copies to review after QC is completed.
- Review/Sign off form to be created and sent to OEM so that we can track what is in progress/completed/not yet started.
- Slide decks for sub-committee meetings to be sent over to OEM for review June 17.
- Invoice for work completed through end of June. Provide combined invoice SPD and MBI.
- Mitigation Actions request form and email will be provided to OEM to send out after Midpoint Meeting.



Hazard Mitigation Planning Team Meeting 4

June 20, 2024

10:00am Zoom Meeting

Attendees

Kerry Topovski, OEM
Alexander Sperling, OEM

Mark James, Michael Baker
Sara Curry, Michael Baker
Virginia Smith, SPD

Project Update

OEM is holding off on the data request for now, since we are still waiting on funding from FEMA. July 1 is marked down for the data request. Hazard profile development will begin after data is received.

Updates to the 2018 mitigation actions are being done internally by OEM. There was a discussion on the level of detail and information that should be put in for that, it was agreed that going above and beyond would be great but to at least meet the basic requirements.

Confirmed that the hazards have been identified, that happened at the first meeting. That information will be built out in the hazard profiles once data request is received which will be coming at a later date.

Some questions that were raised:

- Does OEM have a stance on what they consider critical facilities?
 - There is a current description in the 2018 plan and nuisance flood study.
 - Want to ensure that description is still accurate.
 - OEM to take a look at their current critical facilities list because it is now much longer than the one that is in the 2018 plan.
- How does OEM capture nuisance flooding?
 - Make sure priority flood areas in nuisance flood plan are documented in the plan.
 - Can refer to the nuisance flood plan and pull over some items from that plan so that action items can be created.
 - Encouraged to include state roads in addition to country roads.
 - Will be helpful to discuss this with the Resiliency Authority.

Schedule & Meetings

- SPD is sending over the PowerPoint for equity special group meetings
 - Discussion based meeting.
 - Usually get a follow-up back

- SPD is continuing to work on the floodplain management PowerPoint.
 - The overarching question is: Where are you? and where do you want to go?
- SPD to tailor their presentations now that they are aware that there will be representatives from various organizations at the floodplain management meeting.
 - Need to broaden their scope of questions.

Outreach

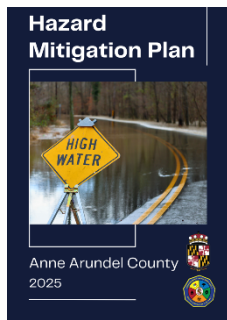
- Top of the list is to launch the website.
- OEM have provided internal staff with the final edits, then it will be submitted to county OIT to launch the webpage.
 - Looking at launching the website next week timeframe.
- SPD inquired if it is easy to add content to the website to document progression of the plan update.
 - OEM developed a chronology folder which contains what activities have been done by date.
- OEM to show draft of the website to SPD/Baker.

Requests

- Add the data request to the slide decks.
- Data request turnaround time – typically 7-10 days for information that is readily available.
 - Might be longer if maps/data needs to be created but we are not anticipating that happening.

Next Steps

- Got the go ahead to submit invoice with the work that has been completed so far at the end of June.
- Still waiting on FEMA to issue the award.
- AACO OEM working on mitigation table.
 - Actions and updates from 2018
 - Trying to hold out for the award first and also meet with the partners to ease into this process.



Hazard Mitigation Planning Team Meeting

August 1, 2024

10am, Zoom Meeting

Attendees

Kerry Topovski, OEM
Alexander Sperling, OEM
Kasey Thomas, OEM
Preeti Emrick, OEM

Mark James, Michael Baker
Monica Perez, Michael Baker
Erick Messick, SPD

Project Update

- The County is processing MDEM's MOA. Possibly working on a six-month extension – will include this as part of the MOA.
- MBI relayed that some sections of the plan are drafted, so the review process can begin. MBI will send chapters in batches for review. The target date to complete the Hazard Profile chapters is early October, in time for the committee to review before they are presented to the public.
- Formal NFIP request:
 - ISAA has been signed and submitted to FEMA.
 - NFIP requests is 1 month but usually take longer than expected.
- MBI presented draft slide materials (less hazard profile summary slides) for the LEPC meeting.
 - The mitigation actions slide needs to be updated to reflect completed actions and actions in-progress – OEM will be responsible for providing this data for presentation slides.
 - The County would prefer to not bring up elevation as a mitigation action because it does not have the capacity to address it unless the Resilience Authority can take over. Will remove this section and focus on County mitigation activities over the last five years.
 - Added information to the slides about HMA opportunities.
 - Emphasize community-based projects and resiliency.
- The County set a deadline (August 23) for partners and stakeholders to finish up review of 2018 action items – not started / completed / ongoing with notes.
- The County will announce the launching of the website and provide information about the public meeting.
 - The County will send out an email as early as August 2nd or possibly the following week.
- The County would like to provide a standardized form for HMPC members to develop 2025 actions. This form should be consistent with MDEM requirements.
 - It is important to send out the form quickly, as November is usually occupied with budget submittals. This is good and bad – Departments will

be familiar with items that they want to do in the next 5 years but their time to participate will be limited.

- Allow 1 month after the form is distributed to HMPC for members to respond before a reminder is sent.
- OEM will distribute the form / MBI and SPD will provide language for OEM to use from other planning applications.
- The form will be created on Google Forms.

Schedule & Meetings

- Planning team meetings will happen every two weeks beginning August 1st.
- The LEPC meeting is scheduled for Monday, September 9th at 9:30am. Mark will give a 15-minute presentation on the purpose / status of the HMP.
- The County will formalize a meeting with Highland Beach, which will be added to the planning timeline.
 - Need to decide on a date and location.
- *Question:* Where should public meetings be held?
 - The OEM auditorium in Glen Burnie could be a meeting location option – central location. Other options include County libraries.
 - Location selection should also take into consideration vulnerable populations.
 - Should aim to host a meeting near the western or southern area of the County as well – Crofton / Shady Side, southern areas are more prone to flood hazard.
 - Meetings could be capped at 80 to 100.
 - The meeting with Highland Beach should be in-person because it will be a good networking opportunity.
 - A mix of hybrid and in-person events (2 virtual and 1 in person) can help reach more people.
 - The FEMA requirement is about community involvement that is meaningful, not necessarily about a specific number of meetings.
 - The deadline to include public engagement into the plan is early December if the plan is expected to be completed by the end of December.
- How will we incorporate maps into the public meetings?
 - Maps should provide an interactive component.
 - Flooding and erosion will be a hot topic, and we should have printed maps for display and conversation.
 - Will need to add a disclaimer that the information gathered from the meeting will help inform the plan, but not all of feedback will make it into the plan.
- *Question:* Is there a way for virtual attendees to have a similar experience?
 - MBI will look into the ability to develop a real time mapping application that can be displayed during a Zoom meeting.
- *Question:* Will this feedback count towards the survey participation?
 - No. It is possible to switch the survey mode to include a mapping capability, but this would be problematic because people have already taken the survey.

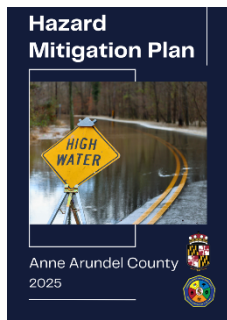
- It would be preferable for people to complete the survey that has already been distributed.
- If needed, people can fill out the open-ended question at the end of the survey.

Outreach

- The Highland Beach mayor can help reach out to nearby coastal communities as they have an existing coordination group established (unknown list of communities)
- FEMA considers the survey as a form of public engagement.
- The County will distribute the survey through various means, including on the Nextdoor, Facebook, and Constant Contact apps to target specific communities.
- The survey needs around 384 responses to be considered statistically significant.

Next Steps

- MBI will provide Anne Arundel with the LEPC slide presentation before the meeting.
- MBI will provide language and fillable google table to document new mitigation actions.
- Anne Arundel will continue distributing the survey.



Hazard Mitigation Planning Team Meeting

August 15, 2024, 10am-11am

Zoom Meeting

Attendees

Joseph Corona, Anne Arundel Co. OEM
Kerry Topovski, Anne Arundel Co. OEM
Alex Sperling, Anne Arundel Co. OEM

Mark James, Michael Baker
Sara Curry, Michael Baker
Eric Messick, Smith Planning & Design

Project Update

- MBI shared project updates, worked through the task tracker and updates on hazard profiles, plan maintenance and the county profile.
 - Plan maintenance section, adoption and executive summary will be transferred to OEM for review by end of week.
 - County profile and Hazard Profiles will be transferred in coming weeks.
- SPD shared project updates and progress made on the hazard profiles.
 - Specific attention to flood, dam and tropical systems.
 - Shared map template and provided to OEM for review.
- LEPC presentation is complete except for the Project Status Update slide to be completed by OEM.
- Public Meeting and Open House presentation is complete.
 - Only a list of the hazards needs to be included into the presentation.
 - County will discuss mapping program that OPZ used to identify hazards to use in workshop portion of meeting profile – Survey 123 to GeoCortex
- Up to 33 responses on the online hazard mitigation plan survey
 - Keep pushing that out and encourage organizations to keep sharing.
 - Will need to produce a mechanism to analyze hardcopy responses.
- NFIP data request has been fulfilled by FEMA R3.
 - Can be integrated into the flood chapters now.
- OEM returned signed MOA to DNR for the flood nuisance plan.
 - MBI and SPD can proceed with working on the flood nuisance plan as it went into effect August 1.
- OEM has requested an extension for the completion of the HMP update. Getting some pushback on this, wants to keep pushing for an extension due to MDEM and FEMA delays at the beginning of the project.

Schedule & Meetings

- Project is on schedule for upcoming meetings in September (LEPC & Public Meeting).
- Group reviewed LEPC and public meeting slides for Sept presentations.
 - County to update 2020 project status slides.
 - Coordinate with OPZ to utilize Survey 123 and Geo Cortex programs

Outreach

- OEM wants to do 3 public outreach meetings
 - 2 meetings in September and 1 in October to allow for staggering.
- Want to have at least one additional in person public outreach meeting and an additional virtual public outreach meeting.
- OEM is looking at scheduling additional meetings outside of the already confirmed 3 public outreach meetings.
- The November HMPC Meeting (Mitigation Action Strategy Meeting)
 - Four-hour session
 - Split into groups based on sectors.
 - This is an in-person meeting.
 - OEM: One meeting or multiple meetings?
 - MBI: Can usually do it in one meeting however if it is running over then another meeting can be scheduled.
 - OEM: To start looking at where this meeting can take place to accommodate the number of people (30 to 60 participants).
 - Need to do it before Thanksgiving and consider the election.
 - OEM: Should the meeting take place in early November, after the election?
 - Answer: Look at the first and second week of November.
 - Time of day: 10am-2pm with food (OEM to look into budget).
 - 8am-12pm
 - 12pm-4pm

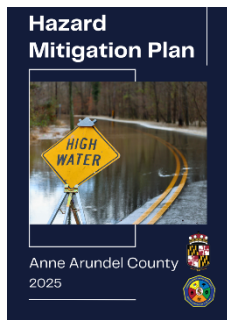
Requests

- MBI requesting critical facilities for the community profile.
 - OEM is still working on gathering the critical facilities.
- SPD needs additional information for mapping.
 - SPD will resubmit request to OEM for data.
 - SPD will upload map template for OEM review.

Next Steps

- OEM to review the plan maintenance, adoption and executive summary and have any comments for next meeting.
- OEM to work on gathering data from the surveys for the public outreach meeting within the next two weeks – preferred for of delivery USPS or Courier.
- OEM to schedule meeting with OPZ for mapping/data resources

- POC Mark Burk.
- SPD to send data request for additional information and mapping to OPZ.
 - Gaps in some of the data and critical facilities.
 - SPD to sort and highlight data that they need.
- MBI to start working on the flood nuisance plan.
- OEM to prioritize the following items:
 - OPZ data request
 - Critical facilities data request
 - Data/map requests from SPD
 - Invoice from MBI (at MBI accounting)
 - Town of Highland Beach community meeting
 - Circle back on the email sent to the original stakeholders list.
 - Reviewing the slides for LEPC and public meetings
- MBI to include the mitigation actions questionnaire and HMA program details in the LLPC presentation.
 - Go ahead and send out the questionnaire, just need to be clear on what terms mean and be very clear on what they need to include in their answers.
 - Need a set of instructions to go with the Google Form
 - Bring ideas to the November meeting.
- MBI to send OEM presentation slides.
- MBI and SPD to continue work on hazard profile sections and submit to OEM when complete.



Hazard Mitigation Planning Team Meeting

August 29, 2024

10am, Zoom Meeting

Attendees

Kerry Topovski, Anne Arundel Co. OEM
Alex Sperling, Anne Arundel Co. OEM
Kasey Thomas, Anne Arundel Co. OEM
Preeti Emrick, Anne Arundel Co. OEM

Mark James, Michael Baker
Monica Perez, Michael Baker
Eric Messick, Smith Planning & Design

Project Update

- MBI and SPD shared updates on project progress.
- OEM has determined that the critical facilities list will be kept as is. OEM is gathering a list of the new high schools built with a special designation. List is now posted to Critical Facility Folder on County's Google Drive
- OEM partners will be uploading data to the Google Drive HMP folder.
 - The OEM EOC facility will be included as a critical facility as a data point, not as an address.
 - The current facility is vulnerable to multiple hazards and there is minimal setback off the road. OEM is in process of relocating EOC. This will need to be highlighted in the plan.
 - Question: Will the large investment into Glen Burnie Town Center affect the facility?
 - It is possible that the County will not be affected because staff could be moved out to the new facility by the time changes begin. Some of the designers decided that the antenna is not healthy for the community, in terms of the signals that are sent. They would rather turn it into a green space.
 - The County has let them know that the space can not be converted while staff are still at the facility.
- OEM will review and added points of contact to the capability assessment survey and then distribute to gather additional details.
- OEM thinks the LEPC slides for September 9th look good. OEM will provide details on mitigation action updates prior to meeting.
- OEM is awaiting a response from the Highland Beach mayor to set up a meeting aside from the public meetings.
- OEM is working with OPZ on a mapping component for the survey. OEM has been doing public outreach in Shady Side. OEM and OPZ brought a laptop to events for people to answer the survey in person. The mapping component at the end allowed people to identify where they notice hazards or flooding. OEM hopes to get a survey like this for an in-person meeting but is concerned about how much time they take to complete.

- MBI: A QR code can be put up on the board for people to take the survey during the presentation.
- OEM: Waiting on an invoice from MBI – Invoice is with MBI Accounting.
- OEM will send a blurb about the Captain Avery Museum meeting in Annapolis, including how many people attended and a description of the reception.
- SPD is awaiting NFIP information. Some of the worksheets on the Capability Assessment need responses from the floodplain manager.
- OEM: The draft chapters on Google Drive are not working. When downloaded from Google Drive, they open as an error – MBI IT Services made aware of problem.
- MBI: Would like a copy of the COOP (Received) and Recovery Plan to include a write up of them on the Capability Assessment.
- Will determine what should be printed for the public meetings/workshops so that people can interact with maps better than just seeing them on a screen.

Schedule & Meetings

- The meeting scheduled for September 18th will be canceled. The library will be notified of the cancelation.
- The kickoff public meeting will be on September 24th, in person at Crofton Library from 6pm-7:30pm. The second meeting will take place on September 30th at Linthicum Library from 6pm-7:30pm.
- OEM: Looking at three dates for the November HMPC workshop and one date in December. One or more might have to be at a community college, which would require renting it out. Are there any dates someone cannot attend?
 - None.
- OEM: The dates we are considering are November 7th, 14th, and 21st, and December 5th.
- MBI: On November 12th, there is a conference with a lot of people attending. Likely the floodplain manager and someone from SPD. The dates listed are probably fine.
- Kickoff meeting for Nuisance Flood Plan is tentatively on September 12th. MOA was sent to DNR as they gather the necessary signatures.

Outreach

- OEM: The survey is too long. The first few questions are short and sweet, while the rest of the survey is too long. Some people have decided to not take it because it is not worth the time.
 - OEM: Not opposed to having a more condensed survey, but it is still a priority for people to fill out the main survey responses.
 - OEM: The survey at the meeting should be focused on getting responses for 123 and on mapping.
 - MBI/SPD: It is also possible to bring physical copies of the survey to the meeting.
 - OEM: Surveys can be pushed out at the beginning of the meeting. A presentation followed by a slideshow of the chapters/maps is a good order.

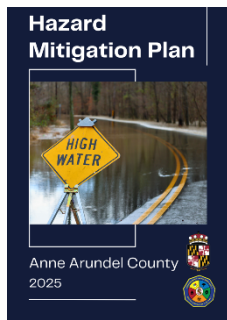
- OEM will continue to distribute the survey and gather responses.

Requests

- OEM is working on data requests and will ask the director to send updates by September 20th.
- OEM sent a request to the MDEM director requesting an amendment to the BRIC award and project schedule. Knowing that FEMA will not grant an extension to the current plan, the best strategy would be to amend the project schedule under the 2022 BRIC award to have enough time to explain to the county council why the plan did not get done in time.
 - Unsure how successful this request will be. The County is being held to less than a year to update the HMP. The federal government was delayed in passing the budget, which affected FEMA grants. If the HMP is not approved by June 2025, federal earmarks are in jeopardy.
- SPD will send a follow up email to OEM to forward to the floodplain manager to answer some questions for the Capability Assessment section.
- OEM asked the county attorney for an update on the MOA.

Next Steps

- MBI will upload completed chapters to the Google Drive folder.
 - MBI and SPD will send the Capability Assessment before the survey results are finalized.
- MBI will share LEPC meeting slides when they are completed.
- OEM will continue to circulate the survey.
- OEM will send data requests to partners.
- OEM will send information on projects for MBI to include on the LEPC slide presentation.
- OEM might set up a separate meeting with DPW for updates.
- OEM will finalize the critical facilities list.
- OEM will send the COOP and Recovery Plan.
- MBI will contact IT if Google Drive document download is not resolved.



Hazard Mitigation Planning Team Meeting

September 12, 2024

10AM, Zoom Meeting

Attendees

Kerry Topovski, Anne Arundel Co. OEM
Alex Sperling, Anne Arundel Co. OEM
Kasey Thomas, Anne Arundel Co. OEM

Virginia Smith, Smith Planning & Design
Eric Messick, Smith Planning & Design
Monica Perez, Michael Baker

Project Update

- OEM officially received MDEM signed Contract on September 9th.
 - OEM will send an email notifying stakeholders soon. It will go to local jurisdictions, businesses, state, and federal partners.
- OEM discussed hosting an official kickoff.
 - SPD is concerned about how this will be written about in the plan if a kickoff meeting has already happened.
- The new critical facilities list includes the mass shelter designated high schools. SPD will reach out if they have any trouble accessing anything.
- OEM has not reviewed any chapters yet, the kickoff is the top priority.
- OEM has received the first invoice and currently processing it.
- The Recovery Plan is in the Google Drive. The COOP Plan was sent via email.
- OPZ sent request for clarification on what data is needed and how it should be presented.
 - SPD will send a direct follow up to Kerry to respond to OPZ.
- OEM recently received the nuisance flood plan award.
 - SPD and MBI confirm they have the previous plan.
 - OEM met with a DNR partner. DNR would like to have a discussion on how the nuisance flood plan can be incorporated within the plan itself, and not just as an appendix.
 - DNR requested for MyCoast data to be analyzed for the plan and to look at where impacts are located.
- The mitigation solutions workshop should utilize data that references areas/streets/communities where mitigation actions should be considered.
- DNR also mentioned Annapolis high tide flooding and asked to associate some of these impacts.
 - If data needs to be in the appendix, that is fine. However, a narrative should be included in the chapters, including where flooding is impacting roads, communities, and infrastructure.
- The current plan includes county GIS fire department data where flooding has impacted the community.
 - OEM would like to see this data represented in the mitigation workshop.

Schedule & Meetings

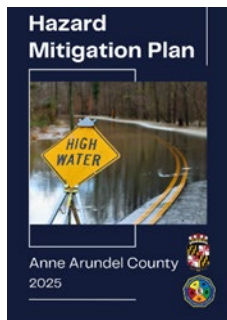
- The first two public meetings on September 18th and 24th have been canceled and need to be rescheduled.
- The first public meeting will take place September 30th at Linthicum Library from 6pm-7:30pm.
 - Allow ½ hour to set up because technology is sometimes finnick.
- A second public meeting will take place on October 14th from 5pm-6:30pm at Crofton Library.
 - Allow ½ hour to set up.
- OEM is in the process of coordinating the dates for the meeting at Glen Burnie.
- OEM is coordinating dates for the virtual meeting.
- A separate meeting for coordination is set up with the mayor of Highland Beach and OEM staff on September 20th.
 - Will discuss future public meetings and the 2018 mitigation actions.
- OEM is coordinating the mitigation solutions workshop at a community college.
 - Looking to schedule this meeting from 9am to 3pm.
 - Hoping to bring in state partners from MDEM or DNR to give an overview of funding opportunities through the state and FEMA.
 - Potential meeting dates are November 7th, 14th, 21st, and December 5th.
 - OEM is working with OPZ to develop a 123 survey with mapping capabilities that allow respondents to identify hazards and locate them.
 - If people are interested in providing more information, they will be encouraged to take the survey.

Outreach

- Mitigation solutions update from 2018: Many of the partners have been collecting and inputting data. Under the data folder, agency department, there is a spreadsheet where OEM is combining all of the agency response into one document. This information is not finalized, so it is not ready to be added to the 2025 HMP plan update.
 - This information will likely be finalized in the next couple of weeks. OEM is also pulling data from other sources, like OPZ's goal objectives.
 - The status of mitigation actions, studies, etc. is all in the process of being combined into one document.
- OEM confirmed that outreach materials have a QR code to the survey.

Next Steps

- OEM will continue to coordinate on when the rest of the public meetings will take place.
- OEM will notify stakeholders about officially receiving the award.
- Will schedule some time to further discuss the flood nuisance plan.



Hazard Mitigation Plan Team Meeting

October 24, 2024, 10am-11am

Zoom Meeting

Attendees

Preeti Emrick, OEM
Joseph Corona, OEM
Kerry Topovski, Anne Arundel Co. OEM
Alex Sperling, Anne Arundel Co. OEM
Mark James, Michael Baker

Project Update

- MBI to provide OEM FEMA Project Mitigation Action Portfolio
https://www.fema.gov/sites/default/files/documents/feam_fy21-bric-mitigation-action-portfolio.pdf
- OEM is working on finalizing the status updates of 2018/20 plan mitigation actions and capabilities – coordination with HMPC members and agencies leads was needed for this effort. This information should be included as a status update at the midpoint meeting. OEM to provide contractors with status updates for inclusion in presentation graphics.
- OEM is meeting with Fire GIS staff (Joni Appel) next Monday. Previous documentation of 311 and 911 response calls to flooding will be requested – OEM will work directly with Fire to receive road closure list.
- OEM has drafted 2025 mitigation actions and will distribute to planning team to review and comment on. Actions were generated by agency not hazard.
- SPD commented that predetermined actions will have to be integrated into plan
- Critical facilities list has been finalized. SPD MBI can begin Hazard analysis for hazards in each profile.
 - OEM requested Tipton airfield be included in list.

Schedule & Meetings

Public meeting schedule:

- *11/21/2024, 6:00 - 7:30 pm "Public Meeting 3 (alternate)"
 - Location - Michael Busch Library (confirmed) – Hybrid, 1410 West Street
- *10/30/2024, 5-7 pm "Public Meeting 4"
 - Location - Edgewater Library (confirmed), 25 Stepneys Lane
Note: Early voting will occur in building next door – parking will be limited.
- *11/12/2024, 5:00 - 7:00 pm, Public Meeting 5:
 - Location - Deale Library (confirmed),

- *11/14/2024, 5:00 - 7:00 pm, Public Meeting 6:
 - Location - Russett Library (confirmed)
 - *12/3/2024, 5:00 - 7:00 pm, "Public Meeting 7"
 - Location - Broadneck Library (confirmed), 1275 Green Holly Drive
- (*OEM will coordinate and run meetings)

HMPC Meeting updates:

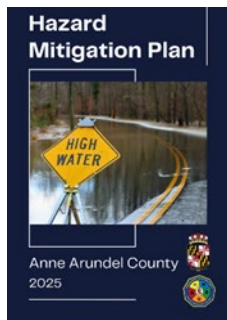
- Mitigation Plan Midpoint Meeting, December 5 – virtual meeting (1.5hrs)
 - Topics to be discussed:
 - Results of Risk Assessment/ Review of Hazard Profiles
 - Capabilities Assessment
 - Nuisance Flood Plan Kick Off
 - Key item to address - Find a way to have HMPC members and agencies document how they have coordinated outreach to address vulnerable populations.
 - Direct questions to gain information on current status of 2018 outstanding capabilities and new 2025 capabilities.
- Mitigation Solutions Workshop, January 15 - held at Anne Arundel Community College (6 hr meeting).
 - Not Confirmed Yet - OEM is working through details & will confirm if equipment will be provided (projector & screen).
 - SPD asked if room can be rearranged into group settings.
 - MDEM and DNR will have 20-30 mini at beginning to discuss funding programs.

Outreach

- Flyer will continue to be circulated across multiple social media platforms to hopefully increase awareness and meeting participation.
- Public Release adds have been placed in the following newspapers
 - Severna Park Voice
 - Baltimore Sun
 - Patch
- Add also posted in the County's executive office newsletter.
- After Highland Beach meeting, OEM will be better prepared for Deal meeting.

Next Steps

- MBI/SPD will begin mapping flood locations once data is received from OEM/Fire Department
- SPD to provide OEM with list of definitions to use during public meetings.
- Collect and post FAQ form community meetings and post them on County website
- OEM to put together capabilities survey to issue at the midpoint meeting. SPD to provide evaluation criteria.



Hazard Mitigation Plan Team Meeting

November 7, 2024, 10am-11am

Zoom Meeting

Attendees

Kerry Topovski, Anne Arundel Co. OEM
Mark James, Michael Baker
Virginia Smith, Smith Planning and Design

Project Update

- Alex is in EMI training this week.
- OEM continue to review completed chapters that were provided.
- MBI team is working on filling in gaps (analysis and maps) on hazard profile chapters. Dams section is completed – MBI is reviewing section and will have it to OEM for review and transfer to MDEM / MDE Dams section for review.
- OEM is working on compiling hazard events table that summarize NCEI data and cross reference event data that OEM has in house.
- List of events is for all hazard and very comprehensive. OEM hopes that identifying and acknowledging the frequency events and previous damages will bring about policy change.
- Flood events that are documented in list have an associated flood level – OEM to determine if this is mean high tide elevation or based on low tide as used in Annapolis flood studies. Interesting facts around 911 calls such as Key Bridge collapse
- Nuisance flood data that county has on file may only go to 2022 or 2023 – will need to get current 2024 events if available.
- HMP will have section on nuisance flood but it will not be a duplication. The Nuisance Flood Plan will provide details that will be referenced in the HMP definitions for coastal and Nuisance will be laid out in plans.

Schedule & Meetings

Public meeting schedule:

- *10/30/2024, 5-7 pm "Public Meeting 4"
 - Location - Edgewater Library, 25 Stepneys Lane
 - 2 attendees*
- *11/12/2024, 5:00 - 7:00 pm, Public Meeting 5:
 - Location - Deale Library (confirmed),
- *11/14/2024, 5:00 - 7:00 pm, Public Meeting 6:
 - Location - Russett Library (confirmed)

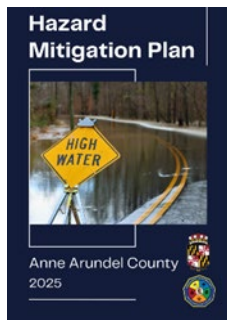
- *12/3/2024, 5:00 - 7:00 pm, "Public Meeting 7"
 - Location - Broadneck Library (confirmed), 1275 Green Holly Drive
- (*OEM will coordinate and run meetings)
- Seeing limited turnout to public meetings – OEM is doing all they can to entice residents but if there are no current issues to address residents are not interested in hazard mitigation planning.

HMPC Meeting updates:

- Mitigation Plan Midpoint Meeting, December 5 – virtual meeting (1.5hrs)
 - SPD to assist OEM with preparation of material to be sent to HMPC prior to meeting.
 - MBI and SPD are currently working on slide deck for meeting presentation.
 - Limited material to discuss between last meeting – reason: shift gears to work on Nuisance Flood Plan while OEM settled contract details with MDEM.
 - Basis of meeting will be on receiving input on capabilities and presenting hazard profile material (flood focused)
- Mitigation Solutions Workshop, January 15 - held at Anne Arundel Community College (6 hr meeting).
 - MDEM and DNR will have 20-30 mini at beginning to discuss funding programs. OEM to confirm staff participation
 - MBI provided Catherine McCall's email address (note Nicole Korzola is no longer with DNR)

Next Steps

- Data request made for comprehensive data set including road closure dates and causes.
- Determine if road closure data in dashboard current. Will need data to compliment results that are posted to the web.
- OEM will coordinate with fire department to confirm/edit entries. This information will be included as a status update at the midpoint meeting.
- Update capabilities section to include advances in data collection and distribution. Note that success of data development is due to responsive agencies. Having planning process in place has increased capabilities.
- Submit Dam section to OEM for review and transfer to MDEM for early review by MDE dam safety section.



Hazard Mitigation Plan Team Meeting

November 22, 2024, 10am-11am

Zoom Meeting

Attendees

Kerry Topovski, Anne Arundel Co. OEM
Alex sperling, Anne Arundel Co. OEM
Mark James, Michael Baker
Eric Messick, Smith Planning and Design

Project Update

- Contract with Nuisance Flood Plan signed and received.
- OEM review of completed chapters – OEM will hold off on sending chapters to MDEM. OEM to ask Marcia how she would like to receive chapters for preliminary review. OEM plans to send chapters to MDEM in December after Midpoint Meeting.
- SPD is working on filling in gaps (analysis and maps) on hazard profile chapters. Dams section transferred to OEM for review.
- OEM attended Shady Side SLR Study meeting. Final meeting during which 8 projects were presented. Draft report to be issued in mid-January and included in HMP - Include meeting photos and exercise results. Focus of report will be on presenting low cost solutions that will be effective and meaningful.
- OEM completed hazard events table summarizing NCEI data and cross reference event data that OEM has in house. Table was transferred to Teams page to integrate into plan.

[2018-2025 Major Events HMP 2025 update.xlsx](#)

Schedule & Meetings

Public meeting schedule:

- *11/12/2024, 5:00 - 7:00 pm, Public Meeting 5:
 - Location - Deale Library (confirmed),
 - *11/14/2024, 5:00 - 7:00 pm, Public Meeting 6:
 - Location - Russett Library (confirmed)
 - *12/3/2024, 5:00 - 7:00 pm, "Public Meeting 7"
 - Location - Broadneck Library (confirmed), 1275 Green Holly Drive
- (*OEM will coordinate and run meetings)
- Still seeing limited turnout to public meetings

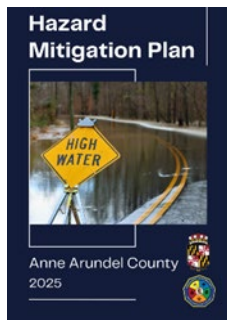
HMPC Meeting updates:

- Mitigation Plan Midpoint Meeting, December 5 – virtual meeting (1.5hrs)

- OEM will send out meeting invites on Nov 22.
- SPD to assist OEM with preparation of material to be sent to HMPC prior to meeting – Capability Assessment rating slides.
 - Meeting agenda to include:
 - Risk Assessment results
 - Nuisance Flood Plan progress / difference between HMP and Nuisance Flood Plan
 - Results of the capabilities survey
 - Public survey results
 - Public meeting summary
 - Provide lead into Mitigation Workshop in January 15, 2025
- SPD working on slide deck for meeting presentation. Will include 4-5 slides with mapped hazards. Maps are completed but are not inserted into plan yet.
- Present HMPC with updates to hazards since 2018 – changes in data, number of events, and policy. Address major hazard that have impacted AA Co and Maryland.
 - Concentrate on the following hazards:
 - Tropical Storm
 - Flood – Coastal and Riverine
 - Extreme Temperatures
 - Tornado
 - Severe Winter Weather
- Basis of meeting will be on receiving input on capabilities and presenting hazard profile material (flood focused)
- Mitigation Solutions Workshop, January 15 - held at Anne Arundel Community College (6-hr meeting).
 - MDEM and DNR will have 20-30 min at beginning to discuss funding programs. OEM to confirm staff participation.
 - Notified AA Co. College of date but need to secure classroom.

Next Steps

- Present OEM draft midpoint meeting slides on Dec 2 for review and presentation on December 5.
- Addition of two critical facilities:
 - Tipton Airport
 - County Warehouse – Mass Care Supplies (Grover Road, Millersville)



Hazard Mitigation Plan Team Meeting

December 19, 2024, 10am-11am

Zoom Meeting

Attendees

Kerry Topovski, Anne Arundel Co. OEM
Alex Sperling, Anne Arundel Co. OEM
Joseph Seborowski, Anne Arundel Co. OEM
Mark James, Michael Baker
Eric Messick, Smith Planning and Design

Project Update

- Nuisance Flood Plan update needed for DNR quarterly report.
 - Plan is in progress and on schedule
 - Data compilation and GIS analysis has begun
 - New DNR contact Margaret "Maggie" Cavey, M.Ed (OEM to send invite to Mitigation Strategy Workshop)
- OEM review of completed chapters – OEM will review completed chapters. Including those previously sent to OEM and completed hazard profile chapters that will be sent via EFTP later today/tomorrow.
 - Timeframe is to have all hazard profile chapters to HMPC by January 1.
 - OEM to review and distribute chapters, then collect comments.
- SPD will continue to work on filling in gaps (analysis and maps) on remaining hazard profile chapters. MBI will review non-natural hazard profile chapters for completeness.
- MDEM has asked AA Co. OEM for an updated schedule to accompany the extension request. Monthly meetings will occur between OEM and MDEM. MBI will be included after initial meetings are held.
 - **Anticipated Review Timelines:**
 - MDEM - 1 month for initial submittal as well as subsequent revisions. MBI will have comments addressed within a week
 - FEMA – 45 Days, review is more detailed and may take up to a month for coordination and response.
- Grant Administration - MDEM will not account for work that was completed between April and September 2024. Any work that was charged after September 2024 MDEM will reimburse. OEM is asking for MDEM to account for work starting in July. Hours that were charged outside that window were funded through County funds.
- OEM noted that Survey123 results may not be posting and will investigate this potential issue.
- SurveyMonkey Hazard Perspective Survey responses: 189 total as of 12/19/24

- *Note: To reach an 85% confidence interval with a 7% margin of error for survey results, the survey needs at least 196 total responses. A 5% margin of error requires 384 total responses.*
- Google capabilities survey is completed and will be circulated to HMPC members prior to mitigation workshop.
- OEM to prepare for discussion on saltwater intrusion prior to workshop.
- Anne Arundel County Combined Support Services Complex address corrected: 8313 Grover Road, Millersville, MD 21108

Schedule & Meetings

Public Meeting Schedule:

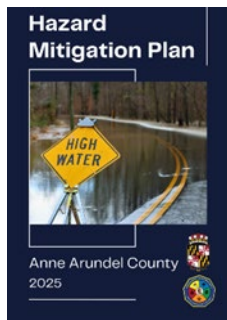
- All scheduled public outreach meetings / events are done. OEM recorded the last meeting at EOC and will post it to the website. Notification posted to website and media sites that public outreach efforts have ended but surveys remain open.

HMPC Meeting Updates:

- Mitigation Plan Midpoint Meeting - meeting notes were completed and sent to OEM for review.
- Mitigation Solutions Workshop
 - Location has changed to MDEM Headquarters in Hanover – January 15
 - Backup location is Heron Center - January 22
 - OEM to ask Resilience Authority if they would like a spot in the meeting to promote their efforts along with DNR and MDEM - will have 20-30 minutes at beginning to discuss funding programs. OEM to confirm staff participation.
- MBI approached OEM after meeting to consider rescheduling workshop to a date in Mid-February considering short notice, holiday season, and no confirmation on meeting location. OEM agreed and will run it by Preeti.

Next Steps

- Prepare for Mitigation Workshop
- Review / Finalize Hazard Profile Chapters and submit to OEM



Hazard Mitigation Plan Team Meeting

January 2, 2025, 10am-11am

Zoom Meeting

Attendees

Kerry Topovski, Anne Arundel Co. OEM
Alex Sperling, Anne Arundel Co. OEM
Preeti Emrick, Anne Arundel Co. OEM
Joseph Seborowski, Anne Arundel Co. OEM
Mark James, Michael Baker
Virginia Smith, Smith Planning and Design
Eric Messick, Smith Planning and Design

Project Update

- OEM reviewed completed chapters and provided comments (i.e., sections 4, 6, 7)
- Natural Hazard profile chapters were submitted for review.
 - OEM to review and distribute chapters to HMPC, then collect comments prior to mitigation solutions workshop. Note: Goal to have all draft chapters submitted to HMPC members by February 5, 2025, allowing them time to review prior to workshop.
 - All HMPC members to review County Profile and Capabilities Assessment chapters.
- OEM will distribute specific chapters to HMPC (i.e. DPW will review transportation/health department will review emerging infectious disease)
- MBI SP&D will continue to work on filling in gaps (analysis and maps) on remaining hazard profile chapters.
- MBI will review non-natural hazard profile chapters for completeness and submit for review by end of week.
- Two capabilities assessment responses were received by OEM
 - Office of Law
 - DPW
- Timing for Nuisance Flood Plan – Flood analysis will be completed in time to present at the Mitigation Solutions Workshop

Schedule & Meetings

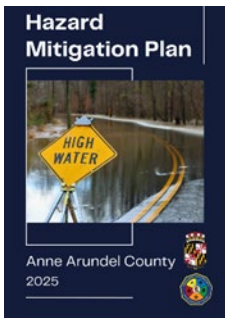
HMPC Meeting Updates:

- Mitigation Solutions Workshop

- Date for meeting has been adjusted - Additional time needed to allow HMPC time to review workshop material.
- Location has changed to MDEM Headquarters in Hanover
- February 19 with backup date February 26
- Workshop will arrange participants in groups that have specific interest. Related material will be provided so they can discuss impacts of hazards and potential mitigation measures. Note: Will need 1-2 actions for each hazard.
 - OEM will develop agenda items and timeframe of meeting for SPD to start working on workshop content.
 - First step of the meeting will be the review of existing goals and objectives. Important not to spend time on details and get off track early – suggest doing review of goals and strategies pre workshop.
 - Social vulnerability will be considered during the workshop.

Next Steps

- Remaining draft natural hazard sections (flood, coastal hazards, hurricane, and emerging infectious diseases) will be submitted to OEM for review by January 14, 2025.
- New mitigation action item ideas to-date need to be added to the Master 2025 excel database.
- SP&D will submit a “new mitigation action item idea form” (fillable PDF) to OEM that can accompany draft hazard chapters.
 - Provides the HMPC the ability to suggest mitigation strategies as they review draft hazard sections.
- By next internal planning meeting (January 16)
 - All chapters will be distributed to HMPC members for review.
 - Mitigation Solutions Workshop draft agenda will be completed.
 - Dam Section will be sent to MDE for review.



Hazard Mitigation Plan Team Meeting

January 16, 2025, 10am-11am

Zoom Meeting

Attendees

Kerry Topovski, Anne Arundel Co. OEM
Alex Sperling, Anne Arundel Co. OEM
Preeti Emrick, Anne Arundel Co. OEM
Mark James, Michael Baker
Virginia Smith, Smith Planning and Design
Eric Messick, Smith Planning and Design

Project Update

- OEM is in the process of reviewing Hazard Profile chapters and will have them back to MBI for revisions by end of the week.
- The remaining natural Hazard Profile chapters were reviewed and sent to OEM on January 17.
 - Flooding
 - Coastal Hazards
 - Hurricane Tropical Storm and Nor'easter
 - Emerging Infectious Disease
- The goal is to have all draft chapters reviewed/revised and submitted to HMPC members before the February 26 workshop (2 weeks).
 - All HMPC members to review County Profile and Capabilities Assessment chapters. Other chapters will be delivered to specific HMPC members for review (i.e., DPW will review transportation/health department will review emerging infectious disease)
- MBI completed non-natural Hazard Profile chapters and submitted them to OEM for review January 10.
- Five capabilities assessment responses were received by OEM. OEM to forward completed forms to MBI to summarize and include in the plan.
 - Planning and Zoning
 - Health
 - Risk Management
 - Office of Law
 - DPW
- OEM sent the Dam Section to MDE for review.
- MBI and SPD to start working on compiling Appendix.
- OEM will be applying for 2023 BRIC / FMA applications this year and will be in compliance.
- Shady Side Resilience Study and Roadway Vulnerability Study are both delayed. If strategies are not received the HMP will provide general reference to plans.
- Additional information was added to the Infectious Disease chapter and provided for review.

Schedule & Meetings

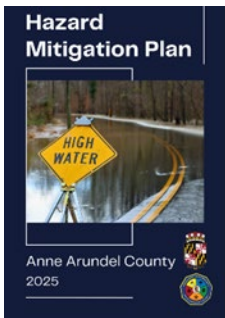
- OEM has scheduled meeting with MDEM to discuss plan update – February 26.
- OEM schedule to have draft Plan to MDEM:
 - MBI to OEM March 21, 2025
 - OEM to MDEM March 25, 2025
- HMPC will have an opportunity to review all chapters but the Planning Process and Mitigation Strategy before workshop. Those two chapters will be made available on google drive when complete and the members will be notified.
- Final versions of the plan will be provided in PDF and word along with GIS Shape files. Printed copies will be provided to libraries and agencies / departments after APA.

HMPC Meeting Updates:

- Mitigation Solutions Workshop
 - Location - MDEM Headquarters in Hanover
 - The invitation was sent as in-person but will offer a virtual option if requested.
 - February 26
 - Will allow 20 minutes for intros – everyone should know each other.
 - Name, agency/department
 - LEPC Meeting held week after workshop
 - Biweekly planning is canceled the week after the workshop – will coordinate as needed.
- SPD shared Mitigation Workshop agenda and times for OEM review.
 - The first step of the meeting will be the review of existing goals and objectives.
 - SPD made recommendations to current goals and objectives for OEM to review before distribution to HMPC.
- SP&D shared a “new mitigation action item idea form” (fillable PDF) with OEM that can accompany draft hazard chapters.

Next Steps

- Revisions to Hazard Profile sections will be returned to OEM for distribution by the end of week January 20.
- By next internal planning meeting (January 30)
 - All chapters will be ready for HMPC distribution and review.
 - Mitigation Solutions Workshop draft agenda will be completed.



Hazard Mitigation Plan Team Meeting

January 30, 2025, 10am-11am

Zoom Meeting

Attendees

Kerry Topovski, Anne Arundel Co. OEM
Mark James, Michael Baker
Eric Messick, Smith Planning and Design

Project Update

- Alex was in training and was not able to join.
- Hazard Profile chapters have been updated and returned by MBI for OEM Distribution to HMPC.
 - OEM has organized draft chapters into google docs folders for specific department review.
 - All HMPC members to review County Profile and Capabilities Assessment chapters. Other chapters will be delivered to specific HMPC members for review
 - HMPC members are asked to review each chapter and provide comments/revisions using google doc track changes or comment. OEM will collect comments/revisions and decide what MBI should correct.
 - OEM provided 4 chapters to MDEM and Dam Chapter to MDE for preliminary review.
 - MDEM Chapters
 - Flooding
 - Coastal
 - Dam
 - Hurricane
- OEM still needs to review goals/strategies as well as the executive summary. These will be reviewed/adjusted before email with chapter review request is sent to HMPC members.
- A separate email including New Mitigation Strategy request forms will be sent out to HMPC members closer to the workshop. Giving the HMPC members time to review hazard profiles before asking them to develop new strategies.
- Capabilities assessments will be transfer to MBI after mitigation – Opportunity to discuss results and recommendations.
- MBI and SPD working on compiling Appendix.
- Shady Side Resilience Study and Roadway Vulnerability Study are both delayed. If strategies are not received the HMP will provide general reference to plans.
- County profile chapter needs to update critical facility list to include the following. Analysis included locations but they were not updated in HMP text – table 1.1-2.
 - Remove Meade High School
 - Add Tipton Airport
 - Add Grover Road Storage Location
 - Adjust Old Mill High School to “Future Mass Care Shelter”

Schedule & Meetings

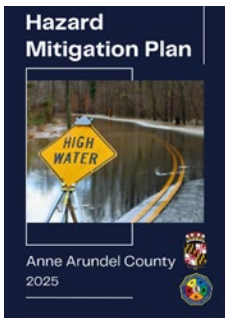
- OEM has scheduled meeting with MDEM – February 13 at 1PM. Our biweekly meeting that is scheduled that morning will be moved to 1PM so that MBI and SPD will be able to participate in the OEM/MDEM meeting.
- OEM schedule to have draft Plan to MDEM:
 - MBI to OEM March 21, 2025
 - OEM to MDEM March 25, 2025

HMPC Meeting Updates:

- Mitigation Solutions Workshop
 - Location - MDEM Headquarters in Hanover
 - OEM will be visiting MDEM to view the room and get details on AV system requirements
 - Review room configurations
 - Location of slide projector and laptop
 - Breakout session locations
 - OEM is working on firming up agenda and will have DNR point person identified.
 - OEM may consider inviting MDE staff to discuss Comprehensive Flood Management Grant Program.
 - SPD will have Mitigation Strategy exercise forms ready for OEM to send to HMPC one week before workshop.
 - Biweekly planning is canceled the week after the workshop – established run through meeting on February 24.
 - OEM will provide Highland Beach with all pre workshop material and personally invite them to workshop.

Next Steps

- Hazard Profile sections will be distributed to HMPC by the end of week January 31.
- By next internal planning meeting (February 13)
 - Mitigation solutions workshop material and PowerPoint slides will be completed and reviewed.
 - Begin revisions to reviewed chapters from HMPC



Hazard Mitigation Plan Team Meeting

February 13, 2025, 1pm-2pm

Zoom Meeting

Attendees

Kerry Topovski, Anne Arundel Co. OEM
Alex Sperling, Anne Arundel Co. OEM
Mark James, Michael Baker
Eric Messick, Smith Planning and Design

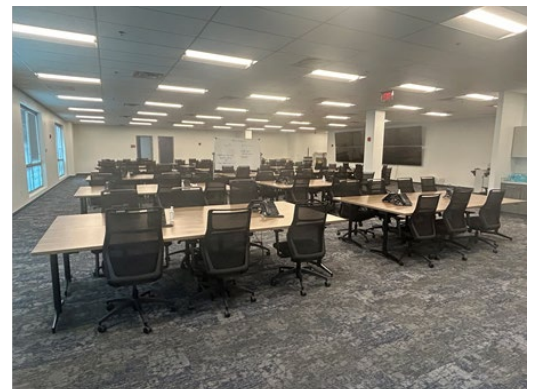
Project Update

- First half of the meeting was used for OEM to update MDEM on progress of plan and discuss details of the upcoming Mitigation Strategy Workshop.
- OEM have no comments on draft sections. MBI received Hazard Profile chapters from Police Department and Planning and Zoning.
- Planning and Zoning will need to update permit data. Table 1.1.6 has permits up to 2017 that will need to be updated to current 2025.
- Planning and Zoning will also need to make changes to the Comp Plan portion of the Capabilities Section to match results of Plan2040.
- OEM has not sent out mitigation action request for to HMPC – no new actions have been developed. This will be a priority of the mitigation workshop
- MBI and SPD working on compiling Appendix.

Schedule & Meetings

HMPC Meeting Updates:

- Mitigation Solutions Workshop
 - Agenda for meeting was reviewed. Items and time allocations were agreed on.
 - DNR will be sending a substitute guest to discuss Coastsmart grant opportunities.
 - Mayor of Highland Beach will be attending workshop.
 - OEM will have access to EOC conference room plus 3 additional breakout rooms that hold 20 each. Off EOC kitchen is available to store/prep food.
 - Plan for 1 hour to update HMPC on status of Nuisance Flood Plan. This will include a break out session to discuss flood prone area that have been identified and additional locations that should be considered.
 - Bring backup projector.
 - Monday February 24 planning team (OEM, MBI, SPD) will meet to go over presentation and meeting material.
 - Marcia gets to work at 6AM and will let us in. Eric is staying overnight and we intend to arrive at 8AM to set up room.



EOC Conference Room

- Proposed working groups for the mitigation strategies portion of the workshop:

Group #1:

- Flood
- Dam Failure and Inundation
- Coastal Hazards

Group #2:

- Hurricane, Tropical Storm, Nor'easter
- Winter Storm
- Thunderstorm
- Tornado

Group #3:

- Civil Disturbance & Active Assailant
- Transportation accidents
- Cyber Attack
- Emerging Infectious Diseases

Group #4:

- Drought
- Extreme Temperatures
- Wildfire

Group #5:

- Soil Movement
- Earthquake
- Erosion

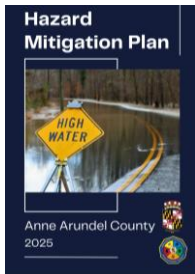
There will be some leeway on these groupings, which is dependent upon who shows up for the workshop. If we have more or less participants, we may combine these groups or rearrange a bit to make things work.

Next Steps

- OEM will distribute remaining Hazard Profile sections to HMPC.
- By next internal planning meeting (February 24)
 - Mitigation solutions workshop material and PowerPoint slides will be completed and reviewed. Last minute workshop prep items will be addressed.

APPENDIX C

Small Group Meetings – Equity & Social Vulnerability / Floodplain Management



Social Equity & Social Vulnerability

Virtual Meeting
June 24, 2024
1:00-2:00 PM

1

Agenda



FEMA HAZARD
MITIGATION – 2023
LOCAL PLAN POLICY
GUIDANCE

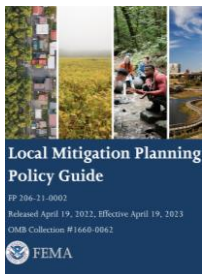


DISCUSSION
QUESTIONS



NEW MITIGATION
ACTION IDEAS

2



- New guidance and update FEMA Plan Review
- Representatives of nonprofit organizations, including community-based organizations, that work directly with and/or provide support to underserved communities and socially vulnerable populations, among others:
 - Examples include housing, healthcare or social service agencies.
 - An opportunity to be involved in the planning process means that these stakeholders are invited to be engaged or are asked to provide information or input to inform the plan's content. Different communities may necessitate more targeted outreach and engagement, especially underserved communities.
- The plan must document how the public had an opportunity to be involved in the current planning process, and what that participation entailed, including how underserved communities and vulnerable populations within the planning area were provided an opportunity to be involved.

3

FEMA defines **equity** as the consistent and systematic fair, just and impartial treatment of all individuals. To ensure that the planning process and outcomes of the local mitigation plan benefit the equity must be central in its development.

Inclusive planning processes take time and thoughtful planning to be set up in a way that provides everyone with the resources necessary to meaningfully participate, make progress, and benefit from hazard mitigation.

4

Equity is not just an important principle; it is essential to reducing risk to the whole community, particularly for those who face barriers to accessing assistance and for populations that are disproportionately affected by disasters.

5

The whole community includes individuals and communities, the private and nonprofit sectors, faith-based organizations, and all levels of government (regional/metropolitan, state, local, tribal, territorial, insular area and federal).

The **mitigation plan** is an **opportunity** to counter some of those barriers and intentionally plan for reducing the risk of all communities.

6

Climate change increases the frequency, duration, and intensity of natural hazards, such as wildfires, extreme heat, drought, storms, and heavy precipitation.

Communities are feeling the impacts of a changing climate now. Many of these trends will likely continue for decades. These variations create new risks to state and local governments and challenge pre-existing mitigation plans.

7

Climate change also pose a unique threat to the nation's most at-risk populations by exacerbating the impacts of disasters on underserved and socially vulnerable populations who already experience the greatest losses from natural hazards.

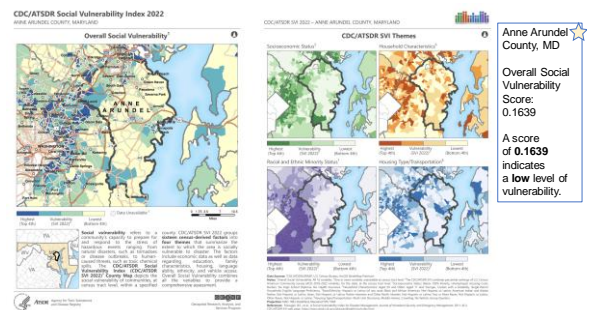
8

What is Social Vulnerability?

According to the CDC, every community must prepare for and respond to hazardous events, whether a natural disaster like a tornado or disease outbreak, or a human-made event such as a harmful chemical spill.

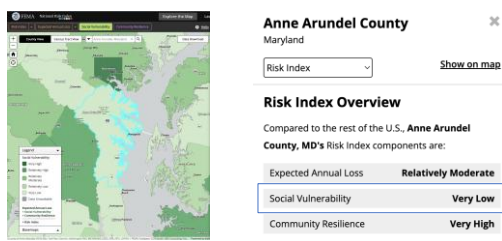
Several factors, including poverty, lack of access to transportation, and crowded housing may weaken a community's ability to prevent human suffering and financial loss in a disaster. These factors are known as **social vulnerability**.

9



10

National Risk Index



11

Discussion Question #1

Has your department, agency, or organization observed **shifts in the needs** of underserved communities or **gaps** in social equity?

Please use chat. Identify organization followed by key points.

Note: HMP has a 5-year planning cycle

12

Discussion Question #2

Do you know of locations/areas of particular social vulnerability concern?

Please use chat. Identify organization followed by key points.

13

Discussion Question #3

Is there a specific organization that works directly with vulnerable populations? Particularly, those not represented today?

Please use chat. Identify organization followed by key points.

14

Discussion Question #4

Has your department, agency, or organization included social equity and/or vulnerability in any of your planning or services provided since the previous HMP?

Please use chat. Identify organization followed by key points.

15

Discussion Question #5

Do you currently target group(s) with public outreach materials? How – methods of dissemination. A social media post?

Please use chat. Identify organization followed by key points.

16

Mitigation Action Idea

Consider answers provided to questions posed on previous slides, as they were oriented to ascertain current actions and capabilities. Moving forward...

What actions do you plan to undertake in the next five years.

17

Mitigation Action Idea

Utilize results of the Social Vulnerability Index (SVI) mapping to identify potentially under-served and/or underrepresented communities at the census tract level. Including emerging infectious diseases, these areas are likely to be impacted by multiple hazards. Targeted outreach efforts should be attempted to "bridge the gap" in access to information and services as it relates to natural hazards.

How? Who?

18

Mitigation Action Idea

Ensure that all health-related announcements, information, and materials are accessible to all socially vulnerable groups, including but not limited to those: over the age of 65, under the age of 5, with limited English-speaking proficiency, with disability, and those at or below the poverty line. Coordinate with the City of Annapolis and Highland Beach on distribution.

19

Mitigation Action Idea

During the annual review and reporting of the AA County Green Infrastructure Master Plan, update existing actions or add new actions that mitigate flood risk by slowing and reducing stormwater discharges and highlight water quality improvements.

In addition, urban heat islands form as cities replace natural land cover with dense concentrations of pavement, buildings, and other surfaces that absorb and retain heat. Trees, green roofs, and other green infrastructure features can cool urban areas by shading building surfaces, deflecting radiation from the sun, and releasing moisture into the atmosphere. Evaluate current actions or add new that integrate social equity, as applicable.

20

Mitigation Action Idea

Promote tree planting at the neighborhood level. Distribute information on Maryland's [5 million trees Initiative](#) (5MT). Consider social equity when prioritizing neighborhood outreach. Prioritize those properties within socially vulnerable Census Tracts.

21

OEM will be reaching out to request status updates on the mitigation goals, actions, and projects from the previous Hazard Mitigation Plan.

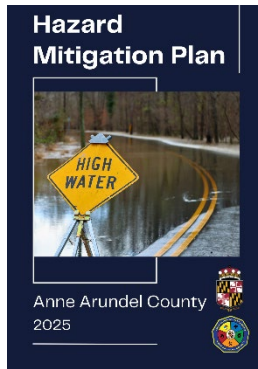
Reference Tables 8.4-2 and 8.4-3.

22

Thank You!

Note: Meeting notes will be distributed.

23



Social Equity & Social Vulnerability Small Group Meeting

June 24, 2024, 1:00 PM – 2:00 PM

[Zoom Recording Link](#)

Passcode: 9sPd\$i6B

Attendees

Name	Position	Department/Organization
Kerry Topovski	Project Development Administrator	Office of Emergency Management
Bill Offutt	Chief of Park Operations	Recreation & Parks
Alexander Sperling	UASI Planner	Office of Emergency Management
Dave Mandell	Deputy Director	Annapolis OEM
Kasey Thomas	PIO	Office of Emergency Management
Asha Smith	Director	County Office of Equity and Human Rights
Daniel Rodriguez	Captain, SOD	County Police Department
Preeti Emrick	Director	Office of Emergency Management
Erin Karpewicz	CEO	Arundel Community Development Services (ACDS)
Janssen Evelyn	Deputy Chief Administrative Officer	Office of the County Executive
Hannah Dier	Deputy Chief Administrative Officer	Office of the County Executive
Mark James	Consultant	Michael Baker
Virginia Smith	Consultant	SP&D
Eric Messick	Consultant	SP&D

Welcome and Agenda

Kerry Topovski (OEM) welcomed participants to the meeting and Virginia Smith (SP&D) discussed the meeting's agenda.

Agenda:

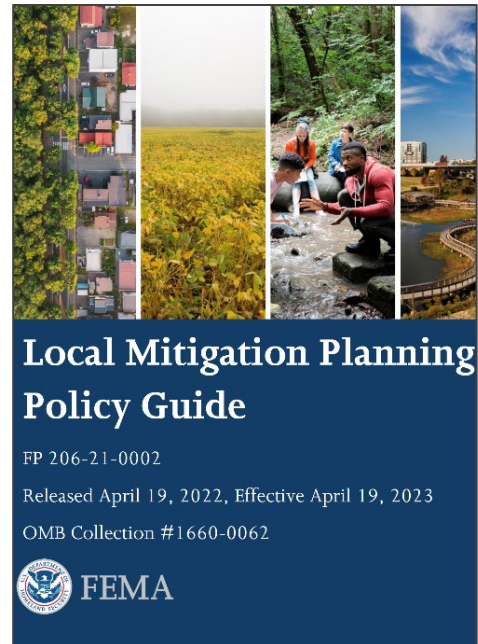
- Overview of FEMA Hazard Mitigation Local Plan Policy Guidance – New
- Questions for Group Discussion
- New Mitigation Action Ideas
- Next Steps

Overview of New HMP Guidance

- **New** [State and Local Mitigation Planning Policy Guide](#) (effective April 19, 2023). Among other things, the guidance requires that representatives of nonprofit organizations, including community-based organizations, which work directly with and/or provide

support to underserved communities and socially vulnerable populations, must be given an **opportunity to be involved** in the plan update process.

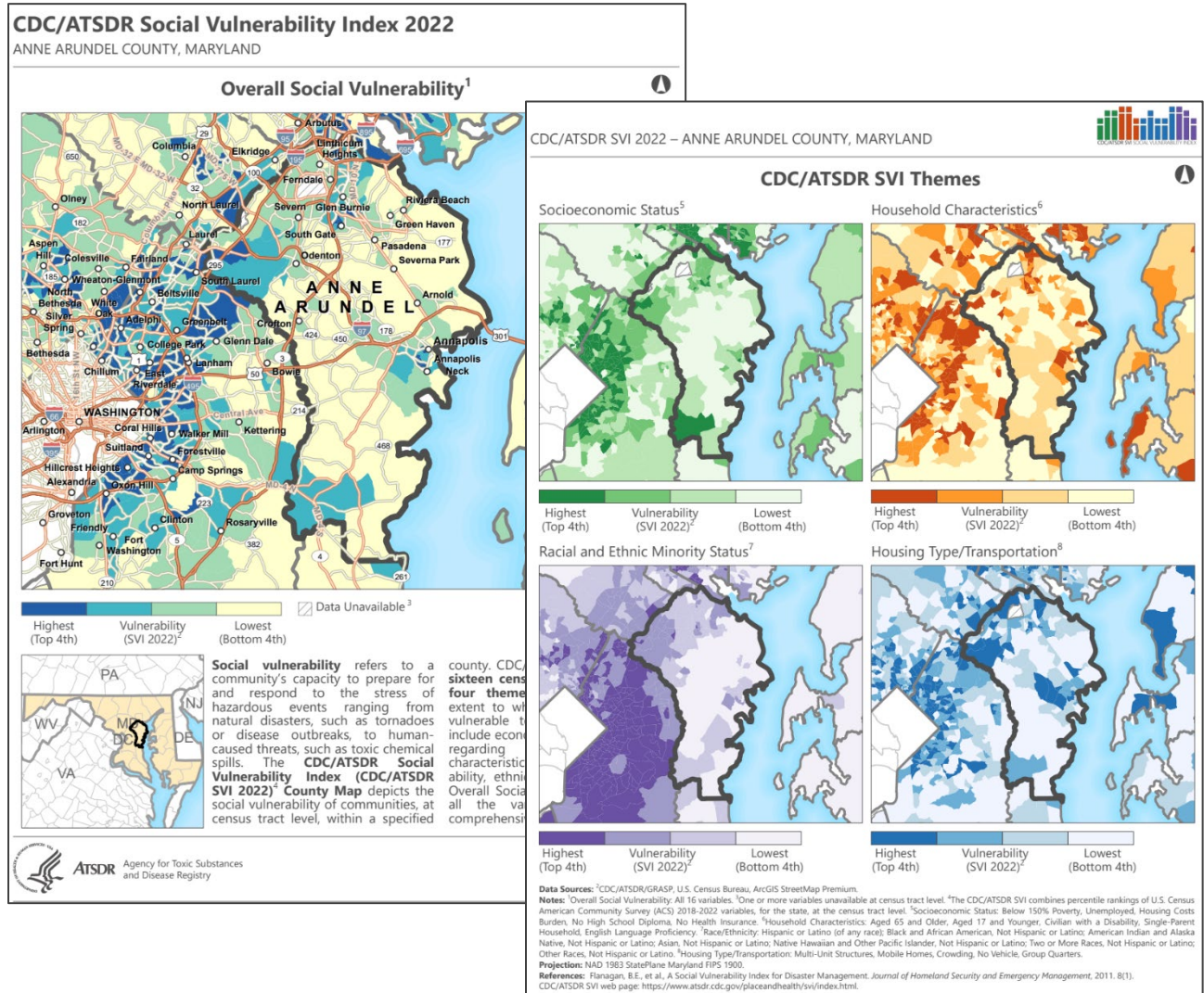
- Examples include, but are not limited to: local representatives from housing, healthcare, and social service agencies.
- An **opportunity to be involved** in the planning process means that these stakeholders are invited to be engaged or are asked to provide information or input to inform the plan's content. Different communities may necessitate more targeted outreach and engagement, especially underserved communities.
- The plan must document how the public had an opportunity to be involved in the current planning process, and what that participation entailed, including how underserved communities and vulnerable populations within the planning area were provided an opportunity to be involved.



Key Topics

- **Equity:** FEMA defines equity as the consistent and systematic, fair, just and impartial treatment of all individuals. To ensure that the planning process and outcomes of the local mitigation plan benefit the equity must be central in its development. Inclusive planning processes take time and thoughtful planning to be set up in a way that provides everyone with the resources necessary to meaningfully participate, make progress, and benefit from hazard mitigation.
 - Equity is not just an important principle; it is essential to reducing risk to the whole community, particularly for those who face barriers to accessing assistance and for populations that are disproportionately affected by disasters.
 - The whole community includes individuals and communities, the private and nonprofit sectors, faith-based organizations, and all levels of government (regional/metropolitan, state, local, tribal, territorial, insular area and federal).
 - The **mitigation plan** is an **opportunity** to counter some of those barriers and intentionally plan for reducing the risk of all communities.
- **Climate change:** increases the frequency, duration, and intensity of natural hazards, such as wildfires, extreme heat, drought, storms, and heavy precipitation.
 - Communities are feeling the impacts of a changing climate now. Many of these trends will likely continue for decades. These variations create new risks to state and local governments and challenge pre-existing mitigation plans.
 - Climate change also poses a unique threat to the nation's most at-risk populations by exacerbating the impacts of disasters on underserved and socially vulnerable populations who already experience the greatest losses from natural hazards.
- **Social Vulnerability:** According to the CDC, every community must prepare for and respond to hazardous events, whether a natural disaster like a tornado or disease outbreak, or a human-made event such as a harmful chemical spill.

- Several factors, including poverty, lack of access to transportation, and crowded housing may weaken a community's ability to prevent human suffering and financial loss in a disaster. These factors are known as social vulnerability.
- Compared to other jurisdictions throughout Maryland, Anne Arundel County has a **relatively low** level of social vulnerability (according to the CDC's [Social Vulnerability Index](#)). Additionally, [The National Risk Index](#), which includes social vulnerability as a component of the overall risk score, rates social vulnerability as **very low** for the County.



Discussion Questions

Following the review of key terms and concepts, the presentation switched to discussion oriented questions. These questions and answers are as follows:

Question 1: Has your department, agency, or organization observed shifts in the needs of underserved communities or gaps in social equity?

Answers:

- OEM: Disasters have changed with respect to climate change. Weather patterns are changing with more severe weather and rises in sea level along coastal areas of the County.
- OEM: There have also been changes at FEMA and their focus and response. Local events are community specific and are difficult to plan for by FEMA. Have seen a shift to rely on local emergency response and coordination.
- Annapolis OEM: We have certainly seen an increase in demand for our warming centers in the winter. We also have a Heat Emergency Action Plan that we update annually. Flooding and stormwater concerns are also prevalent in Annapolis.

Question 2: Do you know of locations/areas of particular social vulnerability concern?

Answers:

- ACDS: Heard of increasing needs in the MD City area, South County. Our targeted communities with needs also include parts of Severn (Stillmeadows, Spring Meadows, Meade Village) and Brooklyn Park.
- Annapolis OEM: There are plenty of areas that are less resilient due to social vulnerability factors. Folks who cannot afford to rebuild after a tornado for example. Food security is also a major concern.
 - To this point, although the maps do not show it, all the areas of our county that are highly prone to flooding are also areas where there are several communities with social vulnerabilities.
- Office of Equity and Human Rights: There are accessibility issues in Southern Anne Arundel County, to include several mobile home parks which are home to persons with limited English proficiency.

Question 3: Is there a specific organization that works directly with vulnerable populations? Particularly, those not represented today.

Answers:

- Office of Equity and Human Rights: The Partnership for Children, Youth and Families
- AACO PD: Crisis Intervention Teams, Peer Support, CISM Teams
- Annapolis OEM: Office of Community Services in Annapolis

Question 4: Has your department, agency, or organization included social equity and/or vulnerability in any of your planning or services provided since the previous HMP?

Answers:

- ACDS: To connect with the planning team who is managing our 5 year planning process, please reach out to Elisha Harig-Blaine, eharigblaine@acdsinc.org. It may make sense for you to attend one of our Consolidated Plan planning meetings with stakeholders and/or our Continuum of Care planning meetings.

- The Department of Social Services are responsible for the homeless. Note that in the past 5 years the homeless population has risen, especially in northern public parks. Partnership for Children, Youth and Families is also a group that is involved with homeless – Pam Brown is the POC.

Question 5: Do you currently target group(s) with public outreach materials? How – methods of dissemination. A social media post?

Answers:

- OEM has coordinated community outreach in the past (e.g., social media, print, in-person). Specific attention has been given to faith-based organizations. In the past years OEM has added outreach opportunities with pastors.
- The County has a Spanish coordinator that outreach is coordinated to be as inclusiveness as possible. Public survey will be circulated through Spanish coordinator for translation and made available in both hard copy and electronic. The survey will also be reviewed for plain language by the County. OEM has completed a Strategic Outreach Plan that identifies vulnerable populations and provides options for communicating. The Health Department is responsible for all health-related notifications in both the County and the City of Annapolis.
- Annapolis OEM: all methods are used as well. Some folks prefer presentations, others written materials, some online information, etc.
- Police Dept: social media, in person meetings with community based groups, community associations, department community policing liaison officers and faith based groups.
- ACDS: We attend outreach fairs and do in person presentations in our targeted communities and work with faith based organizations. We also do social media posts but our in person outreach is most effective.
 - National Night Out events in early August, River Days, Hispanic Health Fair, Disability Day.

Mitigation Action Ideas

Mitigation ideas should be developed throughout the plan development process. These ideas are further discussed during the mitigation solution workshop, and potentially developed further into mitigation actions for inclusion in the plan update. To that end, a few mitigation ideas that focused on or included social equity and/or vulnerability were discussed during this portion of the meeting.

Considering the group's answers to the discussion questions, what mitigation actions does Anne Arundel County plan to undertake in the next 5 years?

Mitigation Action Idea 1:

Utilize results of the Social Vulnerability Index (SVI) mapping to identify potentially under-served and/or underrepresented communities at the census tract level. Including emerging infectious diseases, these areas are likely to be impacted by multiple hazards. Targeted outreach efforts should be attempted to "bridge the gap" in access to information and services as it relates to natural hazards.

Participant Comment:

- Maryland's environmental justice screening tool might be helpful for this prioritization too. https://mde.maryland.gov/Environmental_Justice/Pages/EJ-Screening-Tool.aspx

Mitigation Action Idea 2:

Ensure that all health-related announcements, information, and materials are accessible to all socially vulnerable groups, including but not limited to those: over the age of 65, under the age of 5, with limited English-speaking proficiency, with disability, and those at or below the poverty line. Coordinate with the City of Annapolis and Highland Beach on distribution.

Participant Comment:

- Discuss refinement of this potential mitigation action item with the Health Department.

Mitigation Action Idea 3:

During the annual review and reporting of the AA County Green Infrastructure Master Plan, update existing actions or add new actions that mitigate flood risk by slowing and reducing stormwater discharges and highlight water quality improvements.

In addition, urban heat islands form as cities replace natural land cover with dense concentrations of pavement, buildings, and other surfaces that absorb and retain heat. Trees, green roofs, and other green infrastructure features can cool urban areas by shading building surfaces, deflecting radiation from the sun, and releasing moisture into the atmosphere. Evaluate current actions or add new that integrate social equity, as applicable.

Mitigation Action Idea 4:

Promote tree planting at the neighborhood level. Distribute information on Maryland's [5 million trees Initiative](#) (5MT). Consider social equity when prioritizing neighborhood outreach. Prioritize those properties within socially vulnerable Census Tracts.

Participant Comment:

- OEM recommended that proposed mitigation action items #3 and #4 be carried over to the Floodplain Management meeting (6/25/2024).

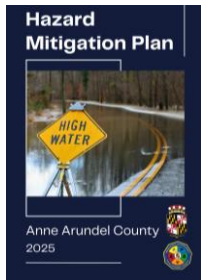
Next Steps

- **OEM** will be reaching out in the coming weeks to request status updates on the mitigation goals, actions, and projects from the previous Hazard Mitigation Plan. Reference Tables 8.4-2 and 8.4-3.
- **County Plans Requested:**
 - Extreme Temperature Plan – OEM
 - Strategic Outreach Plan – OEM
- **Public Survey:**
 - The public survey will be reviewed for plain language.
 - OEM requested materials for at least 4 survey stations for in-person paper surveys.
 - These locations will need to be determined.
 - Idea: have survey stations located at upcoming community outreach events.
 - The survey can be translated (in-house) into Spanish for digital and physical copies.
- Follow up with the Health Department regarding all discussion questions and proposed mitigation action item 2.

Hazard Mitigation Plan Update Timeline	
Task	Dates
ull Project Timeline	April 2024 – January 202
Kick-Off Meeting	April 25, 2024
Social Equity/Vulnerability Meeting	June 24, 2024
Floodplain Management Meeting	June 25, 2024
Mid-Point Meeting	August/September 2024 – 2hrs
Mitigation Solutions Workshop	November 2024 – 4hr Workshop
Deliver to MDEM/FEMA for Review	January 2025

Contact Information

Kerry Topovski – emtopo22@aacounty.org
 Alex Sperling – emsper23@aacounty.org
 Mark James – mark.james@mbakerintl.com
 Virginia Smith – vsmith@smithp-d.com
 Eric Messick – emessick@smithp-d.com



Floodplain Management

Virtual Meeting
June 25, 2024
2:00-3:00 PM

1

Today's Agenda



NFIP COMMUNITY
QUESTIONNAIRE
REVIEW



ADDITIONAL
CAPABILITY
QUESTIONS



NEXT STEPS

2



- **Floodplain management** is a community-based effort to prevent or reduce the risk of flooding, resulting in a more resilient community.
- FEMA "[Checking in on the NFIP](#)" floodplain capability assessment
 - Floodplain Identification & Mapping
 - Floodplain Management
 - Flood Insurance

3

NFIP Community Questionnaire (Screen Share)

4

Additional Questions

1. Does the County plan to participate in the Community Rating System in the next 5 years (i.e., improve its rating)?

Note: Currently a Community Rating of 10.

5

Additional Questions

2. New Repetitive Loss Property and NFIP policy data has been requested. Does the County send mailings for flood prevention to current RLP listing?

Note: As of February 2018, the County had 93 RLP.

6

Additional Questions

3. Do you plan to additionally regulate outside the Special Flood Hazard Area? Consider the 0.2% annual chance flood geographic extent?

Note: Within the next five years.

7

Additional Questions

4. What floodplain management services does the County provide for the Town of Highland Beach?

8

Additional Questions

5. Has your department or organization undertaken any flood-related mitigation activities and/or projects since the completion of the last hazard mitigation plan in 2019?

Please use chat. Identify organization followed by key points.

Hazard mitigation is any action taken to permanently reduce or eliminate long-term risk to people and their property from the effects of hazards.

9

Additional Questions

6. What floodplain management related trainings have occurred within the last five years?
Upcoming training?
7. Do County staff participate in any regional floodplain management training or meetings?

10

Additional Questions

8. Does the County maintain a list of potential flood acquisition properties/flood buyout?
 - How many properties have been acquired within the past 5 years?
 - Any acquisition projects planned for the next 5 years?

11

Additional Questions

9. Is any floodplain management outreach targeted to specific groups or vulnerable populations?

12

Mitigation Action Ideas

Consider answers provided to questions posed on previous slides, as they were oriented to ascertain current actions and capabilities. Moving forward...

What floodplain management actions do you plan to undertake in the next five years?

13

Mitigation Action Idea #1

Expand flood-related information on the County's website to include more floodplain management and permitting information.

E.g., Permit application, links to state and federal floodplain mapping, insurance programs.

Note: much of this information **already** exists, it could be pulled together and linked onto one page.

14

Mitigation Action Idea #2

Is there a flood exercise or drill planned within the next five years?

If so – can we add this as an action item in the HMP? The exercise/drill must be Homeland Security Exercise and Evaluation Program (HSEEP) compliant and include an After-Action Report/Improvement Plan (AR/IP).

15

Mitigation Action Idea #3

Develop flood insurance social media & physical outreach materials for audiences specific to property owners within identified flood prone areas or repetitive loss areas.

Note: Up to 25 points for including flood insurance information with building permits or other direct distribution.

16

Mitigation Action Idea #4

During the annual review and reporting of the AA County Green Infrastructure Master Plan, update existing actions or add new actions that mitigate flood risk by slowing and reducing stormwater discharges and highlight water quality improvements.

In addition, urban heat islands form as cities replace natural land cover with dense concentrations of pavement, buildings, and other surfaces that absorb and retain heat. Trees, green roofs, and other green infrastructure features can cool urban areas by shading building surfaces, deflecting radiation from the sun, and releasing moisture into the atmosphere. Evaluate current actions or add new that integrate social equity, as applicable.

17

Mitigation Action Idea #5

Promote tree planting at the neighborhood level. Distribute information on Maryland's [5 million trees Initiative](#) (5MT). Consider social equity when prioritizing neighborhood outreach. Prioritize those properties within socially vulnerable Census Tracts.

18

Resilience Authority

How do we differentiate and effectively integrate the HMP and the Resilience Authority?

The **purpose and mission** of the Resilience Authority is to undertake and support resilience infrastructure projects in Anne Arundel County and the City of Annapolis.



19

Next Steps

- Update NFIP Worksheet
- Update Appendix A: National Flood Insurance Program Claims Data and Maps
- Revise mapping
- Update Flood-related Capabilities
- Send to Floodplain Manager for review

20

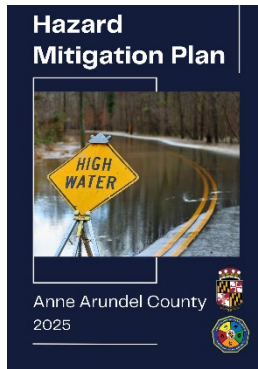
OEM will be reaching out to request status updates on the mitigation goals, actions, and projects from the previous Hazard Mitigation Plan.

Reference Tables 8.4-2 and 8.4-3.

Thank You!

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Floodplain Management Small Group Meeting

June 25, 2024, 2:00 PM – 3:00 PM

[Zoom Recording Link](#)

Passcode: Cm6kg!Q^

Attendees

Name	Position	Department/Organization
Kerry Topovski	Project Development Administrator	Office of Emergency Management
Alexander Sperling	UASI Planner	Office of Emergency Management
Joe Corona	Deputy Director	Office of Emergency Management
Erik Michelsen	BWPR	Dept. Public Works
Greg Novak	Deputy Chief	Fire Department
Christina Pompa	Deputy Planning & Zoning Officer	Office of Planning and Zoning
Mark Burt	Research and GIS	Office of Planning and Zoning
Andrew McCarra	Assistant Director, Building Review and Inspections	Inspections and Permits
Jenny Dempsey	Planning & Zoning Officer	Office of Planning and Zoning
Bill Offutt	Chief of Park Operations	Recreation & Parks
Nicole Clinton	Deputy Central Services Officer	Central Services
Janssen Evelyn	Deputy Chief Administrative Officer	Office of the County Executive
Shannon Hojnowski	Assistant Manager	Central Services, Risk Management
Mark James	Consultant	Michael Baker
Eric Messick	Consultant	SP&D

Welcome and Agenda

Kerry Topovski (OEM) welcomed participants to the meeting and Eric Messick (SP&D) discussed the meeting's agenda.

Agenda:

- Brief Overview of Floodplain Management
- Review of NFIP Community Questionnaires
- Additional Discussion Questions (i.e., not covered by questionnaires)
- New Mitigation Action Ideas
- Next Steps

Overview of Floodplain Management

- **Floodplain management** is a community-based effort to prevent or reduce the risk of flooding, resulting in a more resilient community.
- The HMP Update is a good opportunity to review local floodplain capabilities, which helps to identify gaps and potential mitigation action items.
- FEMA Region 3's "[Checking in on the NFIP](#)" floodplain capability assessment allows for a comprehensive assessment of local floodplain capabilities. The following topic areas are covered by questionnaire:

1. **Floodplain Identification & Mapping**
2. **Floodplain Management**
3. **Flood Insurance**

REGION 3
HAZARD MITIGATION PLAN GUIDANCE
Checking In On The NFIP

Whether you are here as a requirement for hazard mitigation planning (44 CFR 201.6(c)(3)(ii)) or to take strategic action as a floodplain administrator, this document is intended for you and any other staff/partners necessary to help you fill in the questions for each section. Being a part of the National Flood Insurance Program (NFIP) unlocks a lot of valuable resources and connections to state and federal partners. FEMA developed this worksheet to assist you in finding opportunities to meet AND EXCEED requirements as you help your community.

FLOODPLAIN IDENTIFICATION AND MAPPING

The first step is to figure out what made you eligible for the NFIP, where those resources are, and who is accountable for tracking them.

As part of the application to join the NFIP, each participating community was required to identify a floodplain administrator (FPA)/floodplain manager. If the person/position changes, the community should notify their State NFIP Coordinator and FEMA. Please consider who is designated to manage floodplain development and enforce compliance. The role may be completed by multiple individuals with other job responsibilities (e.g., "wearing multiple hats") as long as one person/position is ultimately accountable for the responsibilities of FPA.

1. Who is your FPA or floodplain manager?
Please provide office/agency name, position title, and contact information.

Ex. Dangerville (a fictional community) has had a lot of turnover recently. When the HMP team convened, they noticed their FPA had retired and asked about the replacement. Council solicited nominations and formally designated the Chief Zoning Officer as the new FPA. They also allocated funds to help the CZO attend trainings and learn about the position responsibilities. The CZO worked with the Deputy Director of Planning to reassign some projects to accommodate the FPA workload.

Each municipality is required to maintain accessible copies of its effective Flood Insurance Rate Map (FIRM) and the most recent Flood Insurance Study (FIS) report.

2. Where do you keep your FIRM and FIS report?

Ex. Dangerville keeps these documents at local libraries and encourages the libraries to include digital links on their landing pages.

Ex. Riskburg (another fictional community) keeps their documents in the zoning office. They hold twice annual coffee break open houses where they invite the public in to view and comment on the maps. Any changes identified are cataloged to be included in future updates.

Updated March 2021 Checking In On The NFIP | 1

Review of NFIP Community Questionnaire

- The 3 questionnaires (above) were completed to the greatest extent possible prior to the meeting. These questionnaires were shared on screen so that the group could review them together and have a discussion.
 - Areas where the questionnaires were incomplete were highlighted and participants were given the opportunity to provide additional/complete information for each capability question.
- Information gathered during the meeting has been integrated into the questionnaire.
 - OEM staff will provide follow up questions to the County's floodplain manager, Jay Leshinskie.
- The floodplain manager will review the questionnaire for accuracy.
- Once the assessment is reviewed by the floodplain manager, the completed worksheets will be included in the HMP Update, both appendix and capability sections of the plan.
- Capability gaps identified will be reviewed for potential mitigation actions.

Additional Discussion Questions

Following the review of the “Checking in On The NFIP” capability questionnaire, the presentation switched to additional discussion oriented questions for topics not covered by the questionnaire. These questions and answers are as follows:

Question 1: Does the County plan to participate in the Community Rating System in the next 5 years (i.e., improve its rating)?

Answer:

- County is currently a CRS 10 and not interested in advancing the status without designated staff.

Question 2: New Repetitive Loss Property and NFIP policy data has been requested. Does the County send mailings for flood prevention to current RLP listing?

Answer:

- No RL/SRL mailers have been issued in the past but is something the to consider as an action in the 2025 HMP.

Question 3: Do you plan to additionally regulate outside the Special Flood Hazard Area? Consider the 0.2% annual chance flood geographic extent?

Answer:

- No, the County does not plan to regulate outside the SFHA within the next 5 years.

Question 4: What floodplain management services does the County provide for the Town of Highland Beach?

Answer:

- Floodplain regulations are in place for County as well as Highland Beach – County has jurisdiction over Highland Beach.

Question 5: Has your department or organization undertaken any flood-related mitigation activities and/or projects since the completion of the last hazard mitigation plan in 2019?

Answers:

- P&Z: Sea Level Rise report completed.
- OEM: Development of a Google worksheet providing status updates for mitigation action items.

Question 6: What floodplain management related trainings have occurred within the last five years? Upcoming training?

Answer:

- The County will post HMP training on a shared google drive so participants and county staff can access it easily.
 - County staff has also participated in the 2023 MAFSM Annual Conference Attendee: Raghavenderrao Badami (ipbada78@aacounty.org), Assistant Director, Site Inspections and Development

Question 7: Do County staff participate in any regional floodplain management training or meetings?

Answer:

- County staff will participate in future MASFM conferences.

Question 8: Does the County maintain a list of potential flood acquisition properties/flood buyout?

Answer:

- DPW maintains a flood prone property program.
- Acquired single property in the previous 5 year planning period. Additional property owners were interested, but this requires further follow up.
- **Potential HMP action item:** Greenways Master Plan overlaid with the 1-percent-annual chance floodplain and parcel data to generate a list of flood prone properties. OEM will facilitate the request.

Question 9: Is any floodplain management outreach targeted to specific groups or vulnerable populations?

Answer:

- DPW: Sea level rise meeting in Shady Side (targeted geographic area) is an opportunity for County to promote HMP and issue public surveys. More information about Deale-Shady Side Peninsula is available [here](#).

Proposed Mitigation Action Ideas

Mitigation ideas should be developed throughout the plan development process. These ideas are further discussed during the mitigation solution workshop, and potentially developed further into mitigation actions for inclusion in the plan update. To that end, a few mitigation ideas that focused on or included floodplain management were discussed during the last portion of the meeting.

Considering the group's answers to the discussion questions, what floodplain management mitigation actions does Anne Arundel County plan to undertake in the next 5 years?

Mitigation Action Idea 1:

Expand flood-related information on the County's website to include more floodplain management and permitting information. E.g., Permit application, links to state and federal floodplain mapping, insurance programs. Note: much of this information **already** exists, it could be pulled together and linked onto one page.

Participant Comment:

- Keep this action item.

Mitigation Action Idea 2:

Is there a flood exercise or drill planned within the next five years? If so – can we add this as an action item in the HMP? The exercise/drill must be Homeland Security Exercise and Evaluation Program (HSEEP) compliant and include an After-Action Report/Improvement Plan (AR/IP).

Participant Comment:

- No drills are planned for the next five years, but evacuation training/drills are planned. Keep this action item and change it to “reintroduce flood drills”.

Mitigation Action Idea 3:

Develop flood insurance social media & physical outreach materials for audiences specific to property owners within identified flood prone areas or repetitive loss areas.

Participant Comment:

- Revisit this action item during the Mitigation Solutions Workshop.

Mitigation Action Idea 4:

During the annual review and reporting of the AA County Green Infrastructure Master Plan, update existing actions or add new actions that mitigate flood risk by slowing and reducing stormwater discharges and highlight water quality improvements.

In addition, urban heat islands form as cities replace natural land cover with dense concentrations of pavement, buildings, and other surfaces that absorb and retain heat. Trees, green roofs, and other green infrastructure features can cool urban areas by shading building surfaces, deflecting radiation from the sun, and releasing moisture into the atmosphere. Evaluate current actions or add new that integrate social equity, as applicable.

Participant Comment:

- Revisit this Mitigation Action Ideas #4 & #5 during the Mitigation Solutions Workshop.

Mitigation Action Idea 5:

Promote tree planting at the neighborhood level. Distribute information on Maryland's [5 million trees Initiative](#) (5MT). Consider social equity when prioritizing neighborhood outreach. Prioritize those properties within socially vulnerable Census Tracts.

Participant Comment:

- Revisit this Mitigation Action Ideas #4 & #5 during the Mitigation Solutions Workshop.

Resilience Authority

This topic was briefly touched upon during the meeting, but no conclusions were made. This topic will be discussed at a meeting in July 2024.

- Question: “How do we differentiate and effectively integrate the HMP and the Resilience Authority?”
- Matt Fleming will work with Kerry Topovski to answer this question related to the Resilience Authority.

Next Steps

- The “Checking in on the NFIP” questionnaires reviewed during this meeting will be updated with information gathered and then sent to be reviewed by the floodplain manager (Jay Leshinskie).
 - OEM will facilitate.
- Floodplain capability information will be integrated into the HMP, appendix and capability assessment sections.

- NFIP and RLP data has been requested by OEM. Once the data is received, it will be utilized to update *Appendix A: National Flood Insurance Program Claims Data and Maps*.
- Dedicated email address for submitting questions related to the HMP: hazardmitigationupdate2025@aacounty.org
- OEM will be reaching out to request status updates on the mitigation goals, actions, and projects from the previous Hazard Mitigation Plan. Reference Tables 8.4-2 and 8.4-3.

Contact Information

Kerry Topovski – emtopo22@aacounty.org

Alex Sperling – emsper23@aacounty.org

Mark James – mark.james@mbakerintl.com


Virginia Smith – vsmith@smithp-d.com

Eric Messick – emessick@smithp-d.com

APPENDIX D


September 9, 2024 LEPC Meeting

Hazard Mitigation Plan



LEPC Meeting
September 9, 2024

Anne Arundel County
2025



1

Things to be covered in this Presentation

- Hazard Mitigation Plan and Project Overview
- Planning Process Overview
- Risk Assessment Summary
- Capability Assessment Overview
- Mitigation Strategy Summary
- Next Steps and Action Items

2025 Anne Arundel County Hazard Mitigation Plan Update

2

Hazard Mitigation Plan and Project Overview



2025 Anne Arundel County Hazard Mitigation Plan Update

3

Project Overview

- The [Disaster Mitigation Act of 2000](#) (Public Law 106-390) requires State, local, or tribal governments to develop and submit for approval a mitigation plan that outlines processes for identifying the natural hazards, risks, and vulnerabilities of the area under the jurisdiction of the government.
- Plans must be updated every 5 years.
- **The current Anne Arundel County Hazard Mitigation Plan expires in June 2025.**

2025 Anne Arundel County Hazard Mitigation Plan Update

4

What is Hazard Mitigation?




Hazard mitigation is any **sustained action taken to reduce or eliminate long-term risk** to life and property resulting from natural and human-made hazards.

2025 Anne Arundel County Hazard Mitigation Plan Update

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What is a Hazard Mitigation Plan?

- A Hazard Mitigation Plan (HMP) is a **community-driven, living document** that communities use to reduce their vulnerability to hazards.
- Counties **must have a plan to maintain access to certain mitigation grants.**
- New Local Mitigation Planning Policy Guide **Effective April 19, 2023**, will be used for this plan update – Includes elements to address equity, social vulnerability and underserved communities.

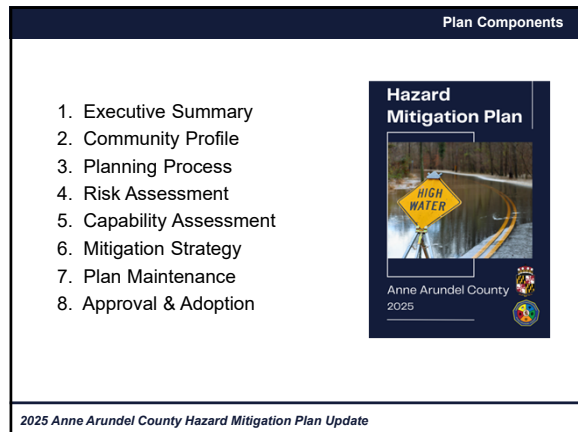


2025 Anne Arundel County Hazard Mitigation Plan Update

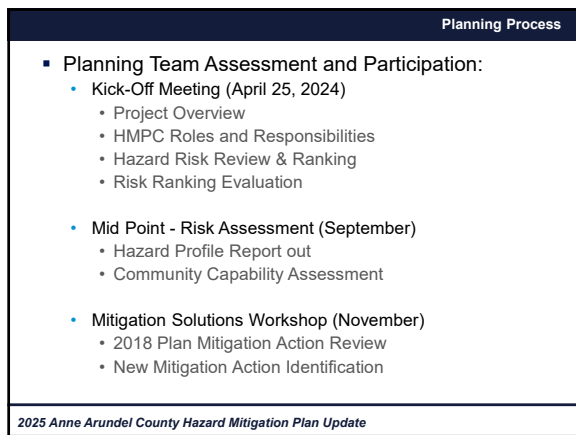
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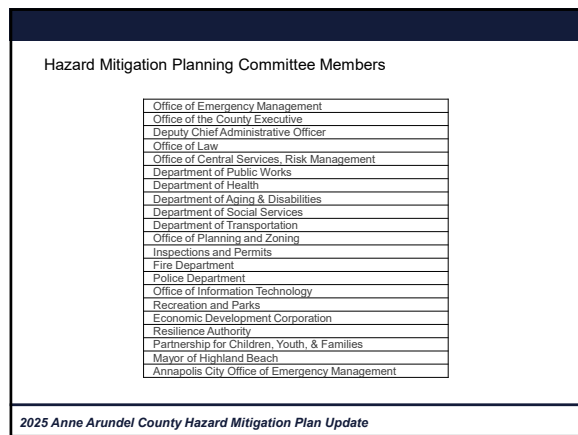
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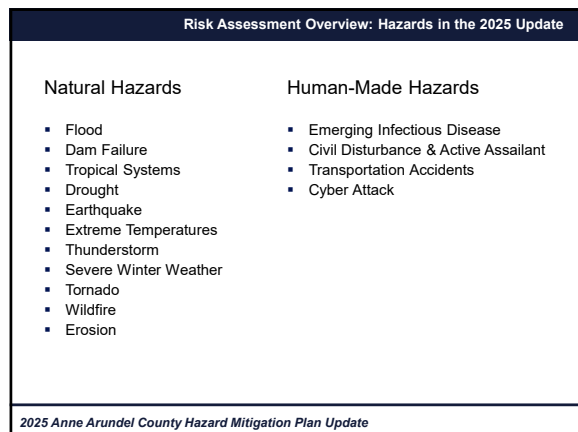
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10



11



12

Risk Assessment Overview: Hazard Profiles

- Location and Extent
 - *Where* does the hazard happen?
- Range of Magnitude
 - How *minor* or *major* might the event be?
- Past Occurrence
 - *When and where* has the event happened in the past?
- Future Occurrence
 - *How likely* is it that the event will happen in the future?
- Vulnerability Assessment
 - What *people, structures, and critical facilities* are at risk?

2025 Anne Arundel County Hazard Mitigation Plan Update

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Capability Assessment Overview



2025 Anne Arundel County Hazard Mitigation Plan Update

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Capability Assessment Overview: Planning & Regulatory Capabilities

- 2021 Plan 2040
- 2018 Emergency Operations Plan
- 2019 Transportation Plan
- 2020 Climate Resilience Action Strategy
- 2022 Land Preservation, Recreation & Parks Plan
- 2022 Sea Level Rise Strategic Plan
- 2024 Hazardous Air Quality Policy Plan
- 2022 Green Infrastructure Plan
- 2013 Implementation Plan for Achieving Energy Efficiency and Conservation
- 2020 Nuisance Flood Plan
- Zoning Ordinances, Subdivision Regulations and Building Codes
- Floodplain Ordinance
- Stormwater Management Ordinance

2025 Anne Arundel County Hazard Mitigation Plan Update

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Mitigation Strategy Overview




2025 Anne Arundel County Hazard Mitigation Plan Update

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Mitigation Strategy Overview: Components

- Progress Review of 2018 Mitigation Actions
- Goals and Objectives
- Mitigation Techniques
- Mitigation Action Plan and Projects



2025 Anne Arundel County Hazard Mitigation Plan Update

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Mitigation Strategy Overview: Mitigation Actions

Completed 2020 Mitigation Actions:

- Create a plan for cooling centers and shelters
- Become a Storm Ready County
- Ensure adequate plans, procedures and capabilities to respond to a dam failure

Ongoing 2020 Mitigation Actions:

- Update and adopt local emergency operations plan
- Develop evacuation plans, policies, and procedures
- Maintain public awareness and education campaigns for all hazards

2025 Anne Arundel County Hazard Mitigation Plan Update

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Mitigation Strategy Overview: Community Based Projects and Resiliency

Engages the **Whole Community** in a process to:

Assess vulnerabilities and risks

Identify policies and actions to reduce risk

Strengthen Community Resiliency

- Builds partnerships
- Increases awareness of hazards and risks
- Communicates priorities
- Aligns with other community objectives

2025 Anne Arundel County Hazard Mitigation Plan Update

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Mitigation Strategy Overview: New 2025 Hazard Mitigation Actions


- Opportunity to Identify New Hazard Mitigation Actions for the 2025 Plan Update.
 - Identify problem or areas of concern
 - Have a study or project that needs funding
 - Think about opportunities in Hazard Mitigation Plan
- Next Steps - Present mitigation ideas and projects to OEM
 - Fill out a Google Mitigation Actions form
 - Attend November Mitigation Action Workshop (TBD)

2025 Anne Arundel County Hazard Mitigation Plan Update

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Mitigation Strategy Overview: Hazard Mitigation Assistance (HMA)

- FEMA grants to support mitigation projects
- Funding availability may vary from year to year
- Must have a current Plan in place to apply
- Must have the mitigation project included in the current HMP.
- Types of grants:
 - Hazard Mitigation Grant Program (HMGP)
 - Building Resilient Infrastructure and Communities (BRIC)
 - Flood Mitigation Assistance (FMA)



2025 Anne Arundel County Hazard Mitigation Plan Update

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Mitigation Strategy Overview: Hazard Mitigation Grant Program (HMGP)

Grant Program	Purpose	Eligible	Non-Fed. Share	Application Timeline
Hazard Mitigation Grant Program (HMGP) (Sect 404)	Post-Disaster	Broad	25%	Generally due to State 12 months after declaration
	All Hazards			
	Plans and Projects			

- Provides funding to rebuild in a way that reduces, or mitigates, future disaster losses in their communities.
- Funding is available after a presidentially declared disaster.

2025 Anne Arundel County Hazard Mitigation Plan Update

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Mitigation Strategy Overview: Building Resilient Infrastructure and Communities (BRIC)

Grant Program	Purpose	Eligible	Non-Fed. Share	Application Timeline
Building Resilient Infrastructure and Communities (BRIC)	Pre-Disaster	Broad	25%	Opens Late Summer Closes at New Year
	All Hazards			
	Plans and Projects			

- Assist communities build capacity and encourages innovation.
- Supports large infrastructure projects
- 2023 NOFO - \$1 billion in grant funds available to address high-level future risks to natural disasters.

2025 Anne Arundel County Hazard Mitigation Plan Update

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Mitigation Strategy Overview: Flood Mitigation Assistance (FMA)

Grant Program	Purpose	Eligible	Non-Fed. Share	Application Timeline
Flood Mitigation Assistance (FMA) Program	Pre-Disaster	Flood Insurance	25%	Opens Late Summer Closes at New Year
	Flood Hazard Only			
	Plans and Projects (flood hazard only)			

- Funds are used for projects that reduce or eliminate the risk of repetitive flood damage to buildings insured by the National Flood Insurance Program
- 2023 NOFO - \$800 million in grant funds available to address high-level future risks to flood disasters.

2025 Anne Arundel County Hazard Mitigation Plan Update

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Draft Hazard Mitigation Plan to MDEM / FEMA

Planning Timeline

Task	Dates
Full Project Timeline	March 2024 – January 2025
Kick Off Meeting	April 25, 2024
Midpoint Meeting	September 2024
Mitigation Strategy	November 2024 (Workshop)
Draft Plan Review Public Open House	TBD
Highland Beach Community Meeting	November 2024
MDEM/FEMA Review Period	February – May
Adoption	June

2025 Anne Arundel County Hazard Mitigation Plan Update

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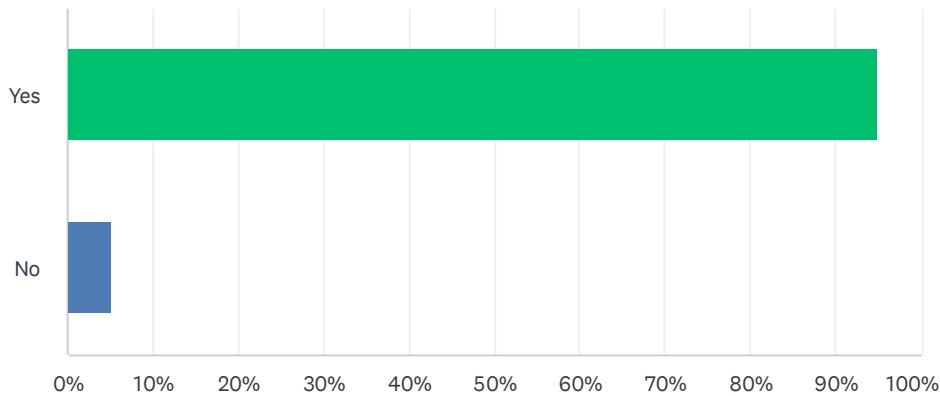


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APPENDIX E
Public Survey Results

Q1 Are you a resident of Anne Arundel County?

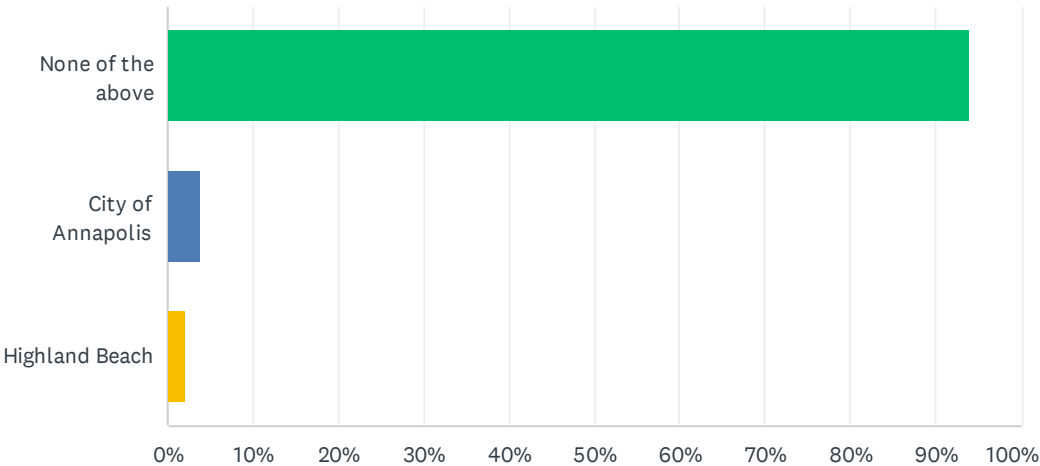
Answered: 194 Skipped: 0



ANSWER CHOICES		RESPONSES	
Yes		94.85%	184
No		5.15%	10
TOTAL			194

Q2 If you live in a municipality, please indicate which municipality below.

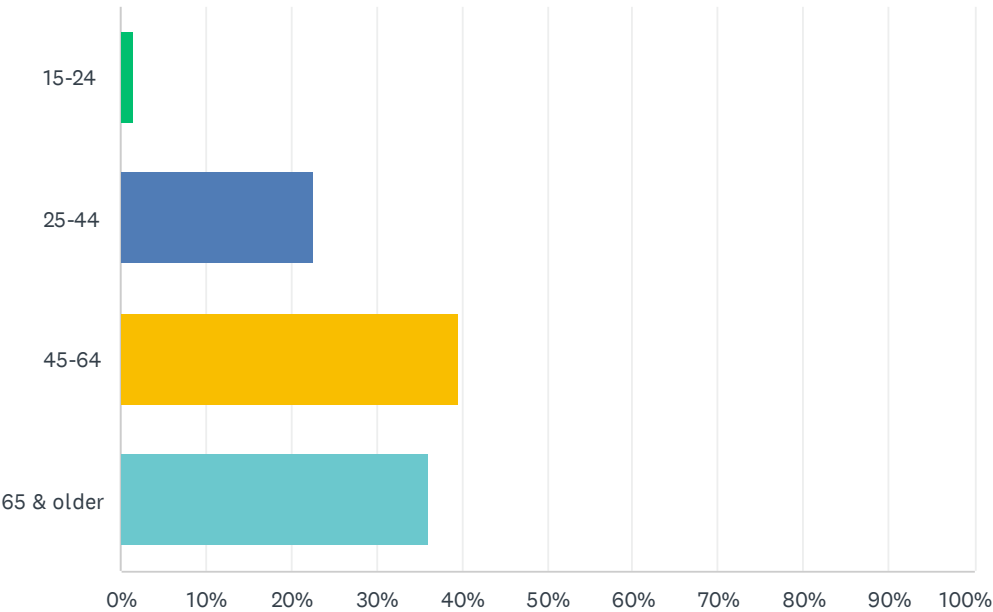
Answered: 187 Skipped: 7



ANSWER CHOICES	RESPONSES	
None of the above	94.12%	176
City of Annapolis	3.74%	7
Highland Beach	2.14%	4
TOTAL		187

Q3 Which age group are you in?

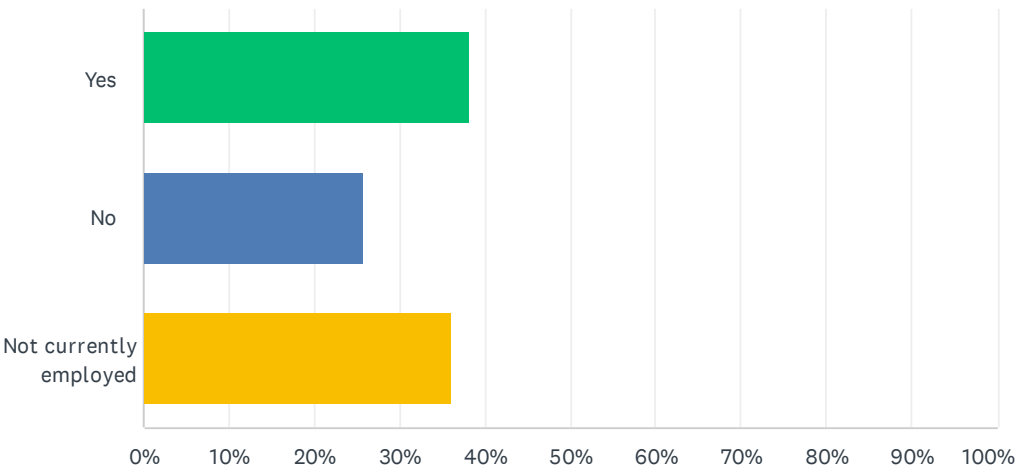
Answered: 194 Skipped: 0



ANSWER CHOICES	RESPONSES	
15-24	1.55%	3
25-44	22.68%	44
45-64	39.69%	77
65 & older	36.08%	70
TOTAL		194

Q4 Do you work in Anne Arundel County?

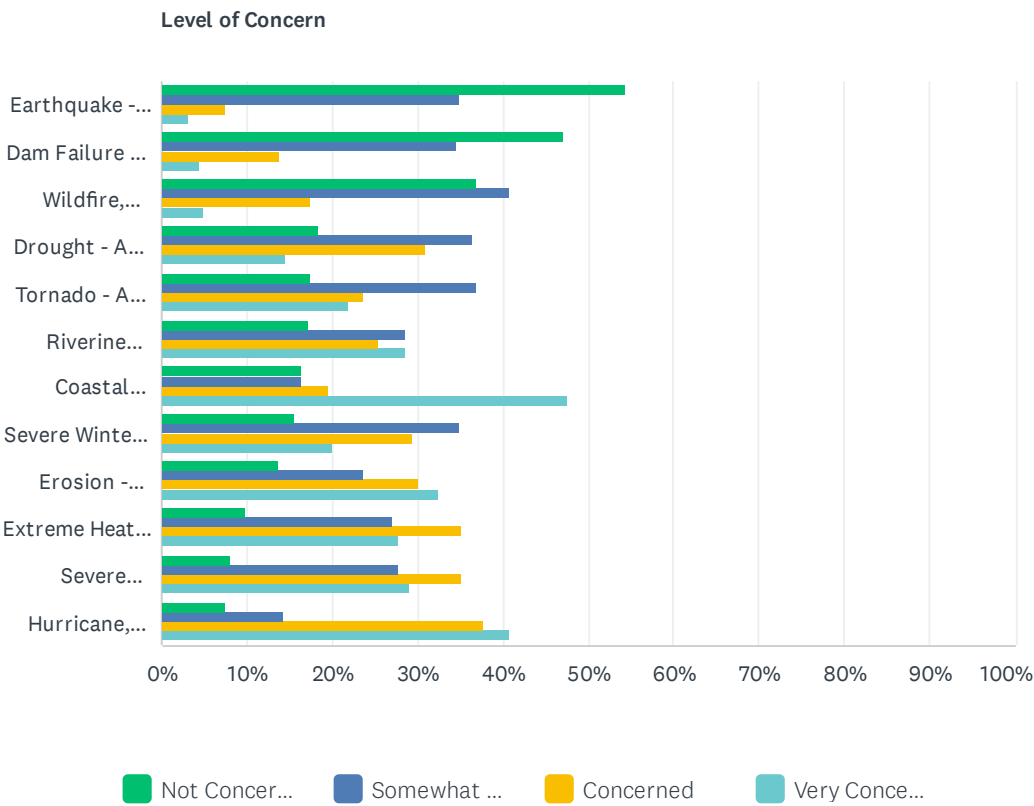
Answered: 194 Skipped: 0



ANSWER CHOICES	RESPONSES	
Yes	38.14%	74
No	25.77%	50
Not currently employed	36.08%	70
TOTAL		194

Q5 Please indicate your level of concern for each hazard using the drop down menu.

Answered: 162 Skipped: 32



Anne Arundel County Hazard Mitigation Plan Public Survey

Level of Concern					
	NOT CONCERNED	SOMEWHAT CONCERNED	CONCERNED	VERY CONCERNED	TOTAL
<p>Earthquake - An earthquake is a sudden release of energy from the earth's crust that creates seismic waves. Tectonic plates become stuck, putting a strain on the ground. When the strain becomes so great that rocks give way, fault lines occur. At the Earth's surface, earthquakes may manifest themselves by a shaking or displacement of the ground, which may lead to loss of life and destruction of property. The "size" of an earthquake is expressed quantitatively as magnitude, and local strength of shaking as intensity.</p>	54.37% 87	35.00% 56	7.50% 12	3.13% 5	160
<p>Dam Failure - Dams present risks but they also provide many benefits, including irrigation, flood control, and recreation. Dams have been identified as a key resource of our national infrastructure that is vulnerable to terrorist attack. According to FEMA, dams can fail for several reasons, including: overtopping caused by floods, acts of sabotage, upstream dam failure (i.e., the failure of another nearby dam), structural failure of materials used in dam construction, or earthquakes. A total of 6 dams are located within Anne Arundel County. There are no high hazard dams in the County.</p>	47.17% 75	34.59% 55	13.84% 22	4.40% 7	159
<p>Wildfire, Urban Interface Fire - Wildfires are uncontrolled fires often occurring in wildland areas, which can consume houses or agricultural resources if not contained. Wildfires/urban interface is defined as the area where structures and other human development blend with undeveloped wildland. Forest and grassland fires can occur any day throughout the year. Most fires occur during the spring season. The length and severity of burning periods largely depend on the weather conditions. Low humidity, high winds, below-normal precipitation, and high temperatures that are frequently present during the spring result in extremely high fire danger. Drought conditions can also hamper efforts to suppress wildfires as decreased water supplies may not prove adequate to quickly contain the fire. The second most critical period of the year is fall. Depending on the weather conditions, a sizeable number of fires may occur between mid-October and late November.</p>	36.88% 59	40.63% 65	17.50% 28	5.00% 8	160
<p>Drought - A drought is an extended dry climate condition when there is not enough water to support urban, agricultural, human, or environmental water needs. It usually refers to a period of below-normal rainfall, but can also be caused by drying bores or lakes, or anything that reduces the amount of liquid water available. Drought is a recurring feature of nearly all the world's climatic regions.</p>	18.24% 29	36.48% 58	30.82% 49	14.47% 23	159
<p>Tornado - A tornado is a rapidly rotating vortex or funnel of air extending to the ground from a cumulonimbus cloud. Most of the time, vortices remain suspended in the atmosphere. When the lower tip of a vortex touches earth, the tornado becomes a force of destruction. Approximately 1,000 known tornadoes are spawned by severe thunderstorms each year. In Maryland, peak tornado occurrence is in March through May, and in November.</p>	17.50% 28	36.88% 59	23.75% 38	21.88% 35	160

Anne Arundel County Hazard Mitigation Plan Public Survey

Riverine Flooding - Flooding is defined as the accumulation of water within a water body and the overflow of excess water onto adjacent floodplain lands. The floodplain is the land adjoining the channel of a river, stream, ocean, lake, or other watercourse or water body that is susceptible to flooding. Flooding typically results from large-scale weather systems generating prolonged rainfall. Flooding in Anne Arundel County can be the result of the following weather events: hurricanes, thunderstorms (convectonal and frontal), storm surge, and winter storms.	17.20% 27	28.66% 45	25.48% 40	28.66% 45	157
Coastal Flooding - Coastal flooding refers to the inundation of land areas caused by water levels exceeding above normal tidal action. Winds generated from tropical storms and hurricanes or intense offshore low-pressure systems can drive water inland and cause significant flooding. This is known as storm surge. The storm surge hazard associated with hurricanes and other severe storms are responsible for coastal flooding and erosion along the Maryland Gulf Coast. In the Anne Arundel County the coastal flooding hazard is greatest along areas adjacent to the Chesapeake Bay. The effects of coastal flooding can be felt in the County from hurricanes that make landfall as far away as New Jersey, Virginia and the Carolinas.	16.46% 26	16.46% 26	19.62% 31	47.47% 75	158
Severe Winter Storm - Winter storms typically form along a front generally following the meandering path of the jet stream. These storms, called mid-latitude cyclones or extra-tropical cyclones, differ from hurricanes in that they move from west to east as opposed to east to west. These weather patterns carry cold air from Canada and the Rockies into the southern U.S. A severe winter storm event includes a storm with heavy snow, ice, or freezing rain – all of which can cause significant problems for residents. The County's greatest winter storms are "Nor'easters."	15.63% 25	35.00% 56	29.38% 47	20.00% 32	160
Erosion - Erosion is defined as the group of natural processes, including weathering, dissolution, abrasion, corrosion, and transportation, by which material is worn away from the earth's surface. One type of erosion is coastal erosion, which is a dynamic process that is constantly occurring at varying rates along the coasts and shorelines of the U.S. Numerous factors can influence the severity and rate of coastal erosion including human activities, tides, the possibility of rising sea levels, and the frequency and intensity of hurricanes. Strong storms and hurricanes can erode large sections of coastline with a single event. The process of coastal erosion results in permanent changes to the shape and structure of the coastline. Human activities such as poor land use practices and boating activities can also accelerate the process of coastal erosion.	13.75% 22	23.75% 38	30.00% 48	32.50% 52	160
Extreme Heat - Extreme heat kills by pushing the human body beyond its limits. Under normal conditions, the body's internal thermostat produces perspiration that evaporates and cools the body. However, in extreme heat and high humidity, evaporation is slowed and the body must work extra hard to maintain a normal temperature. There are seasonal patterns to excessive heat waves, with an event most likely to occur in the summer months.	9.88% 16	27.16% 44	35.19% 57	27.78% 45	162

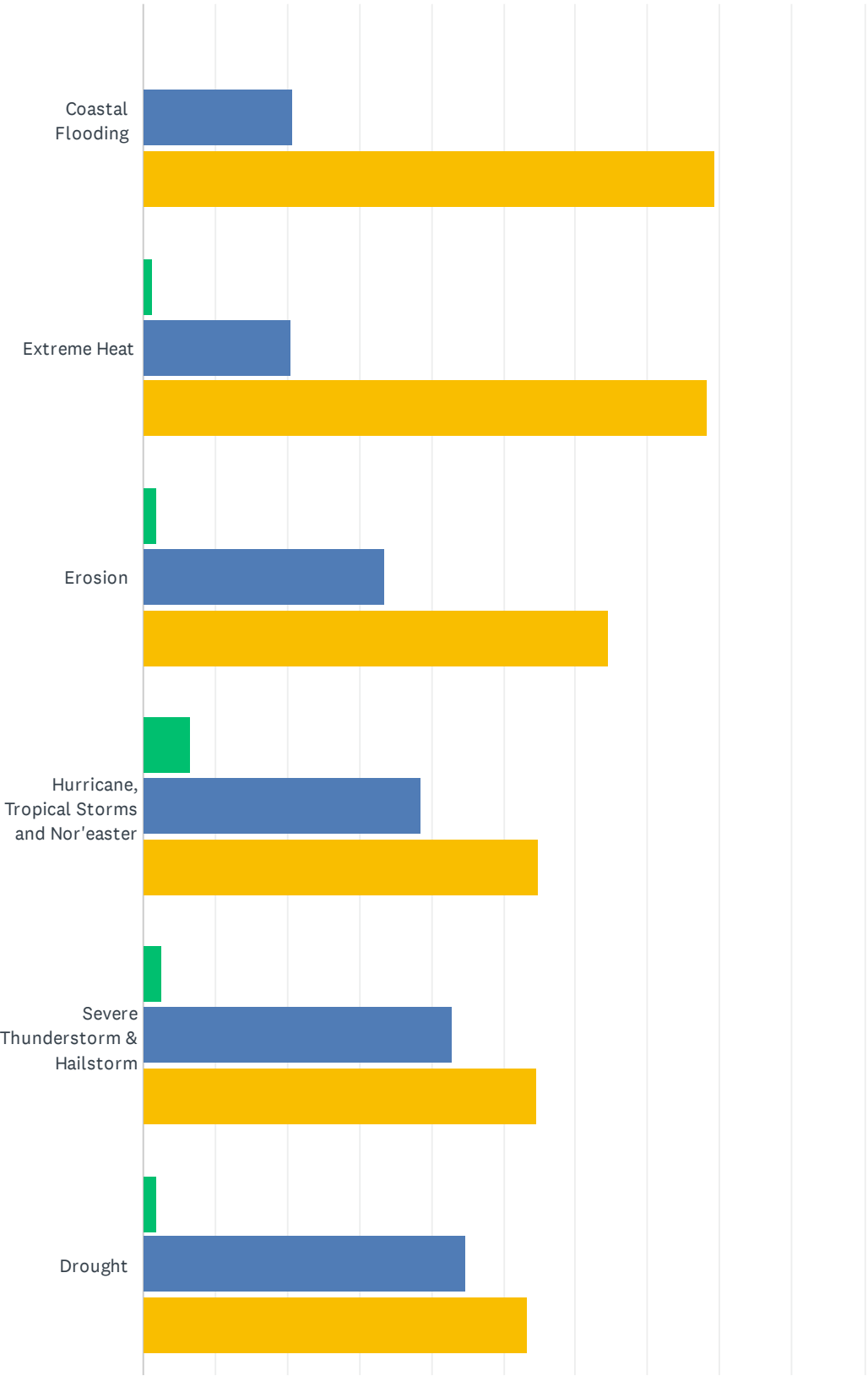
Anne Arundel County Hazard Mitigation Plan Public Survey

Excessive heat can also cause utility outages due to an increased demand for electricity. Utility outages could severely hamper the County's ability to provide services as facilities become inoperable and must be closed due to a lack of power or water.

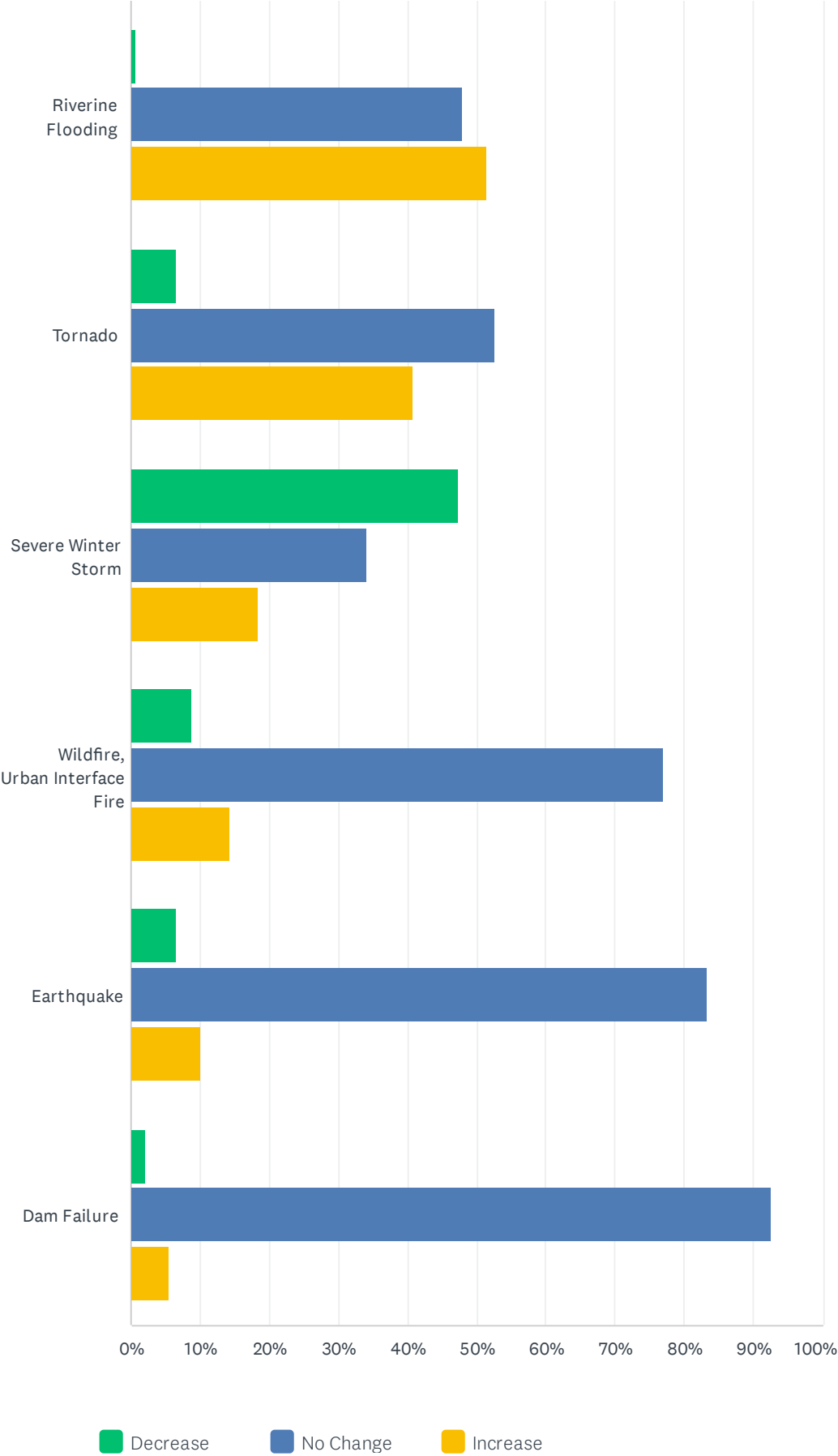
Severe Thunderstorm & Hail - Thunderstorms are the by-products of atmospheric instability, which promotes vigorous rising of air particles. A typical thunderstorm may cover an area three miles wide. The National Weather Service considers a thunderstorm "severe" if it produces tornadoes, hail of 0.75 inches or more in diameter, or winds of 58 miles per hour or more. Structural wind damage may imply the occurrence of a severe thunderstorm. Hail is a form of precipitation comprised of spherical lumps of ice. Known as hailstones, these ice balls typically range from five mm to 50 mm in diameter on average, with much larger hailstones forming in severe thunderstorms. The size of hailstones is a direct function of the severity and size of the storm	8.02% 13	27.78% 45	35.19% 57	29.01% 47	162
Hurricane, Tropical Storm and Nor'easter - Hurricanes, tropical storms, and typhoons, collectively known as tropical cyclones, are among the most devastating naturally occurring hazards in the United States. They present flooding, storm surge, and high wind hazards to the communities that they impact. A hurricane is defined as a low-pressure area of closed-circulation winds that originates over tropical waters. A hurricane begins as a tropical depression with wind speeds below 39 mph. As it intensifies, it may develop into a tropical storm, with further development producing a hurricane.	7.41% 12	14.20% 23	37.65% 61	40.74% 66	162

Q6 Over the last 10 years, have you noticed an increase or decrease in the frequency or intensity of any of the following hazards?

Answered: 159 Skipped: 35



Anne Arundel County Hazard Mitigation Plan Public Survey

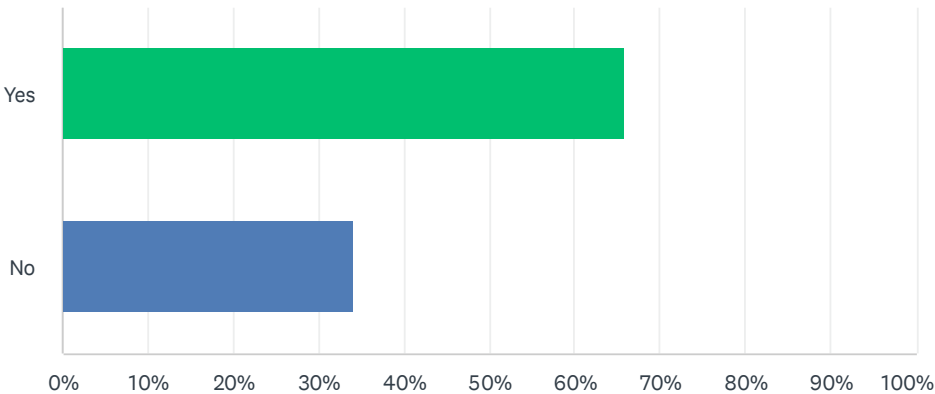


Anne Arundel County Hazard Mitigation Plan Public Survey

	DECREASE	NO CHANGE	INCREASE	TOTAL	WEIGHTED AVERAGE
Coastal Flooding	0.00% 0	20.78% 32	79.22% 122	154	0.79
Extreme Heat	1.28% 2	20.51% 32	78.21% 122	156	0.77
Erosion	1.94% 3	33.55% 52	64.52% 100	155	0.63
Hurricane, Tropical Storms and Nor'easter	6.54% 10	38.56% 59	54.90% 84	153	0.48
Severe Thunderstorm & Hailstorm	2.60% 4	42.86% 66	54.55% 84	154	0.52
Drought	1.95% 3	44.81% 69	53.25% 82	154	0.51
Riverine Flooding	0.66% 1	48.03% 73	51.32% 78	152	0.51
Tornado	6.58% 10	52.63% 80	40.79% 62	152	0.34
Severe Winter Storm	47.37% 72	34.21% 52	18.42% 28	152	-0.29
Wildfire, Urban Interface Fire	8.78% 13	77.03% 114	14.19% 21	148	0.05
Earthquake	6.67% 10	83.33% 125	10.00% 15	150	0.03
Dam Failure	2.05% 3	92.47% 135	5.48% 8	146	0.03

Q7 When you moved into your residence or commercial property, did you consider the impact a natural or non-natural hazard event could have on your property?

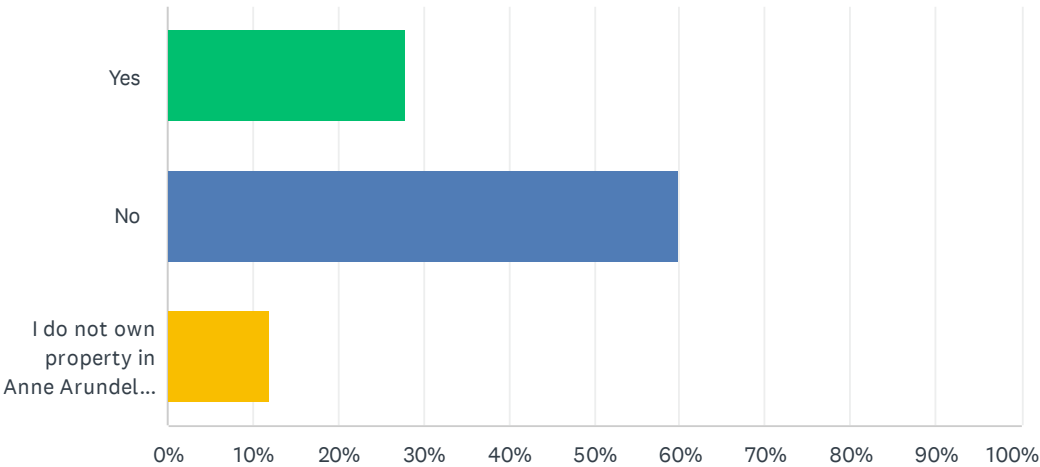
Answered: 147 Skipped: 47



ANSWER CHOICES		RESPONSES	
Yes		65.99%	97
No		34.01%	50
TOTAL			147

Q8 If you own your home or commercial property, do you have flood insurance?

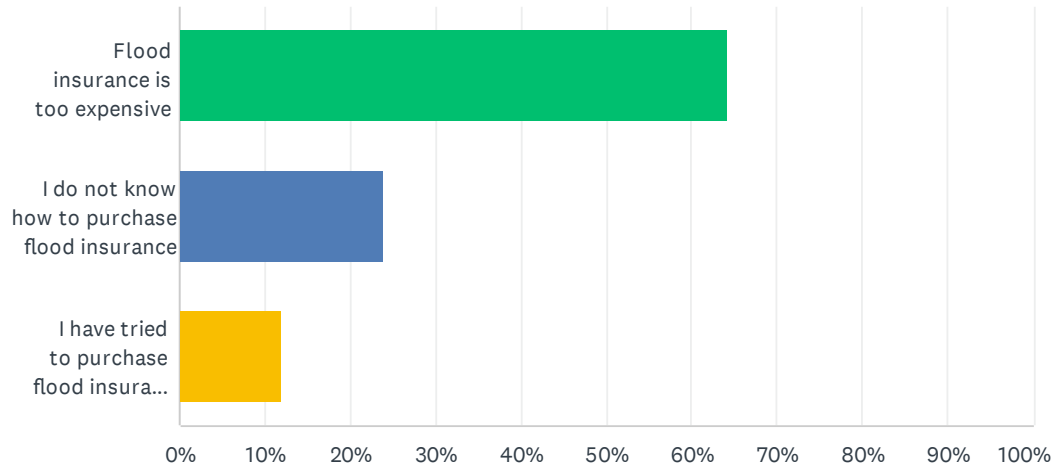
Answered: 150 Skipped: 44



ANSWER CHOICES	RESPONSES	
Yes	28.00%	42
No	60.00%	90
I do not own property in Anne Arundel County	12.00%	18
TOTAL		150

Q9 If “No”, what is the primary reason why you do not carry flood insurance?

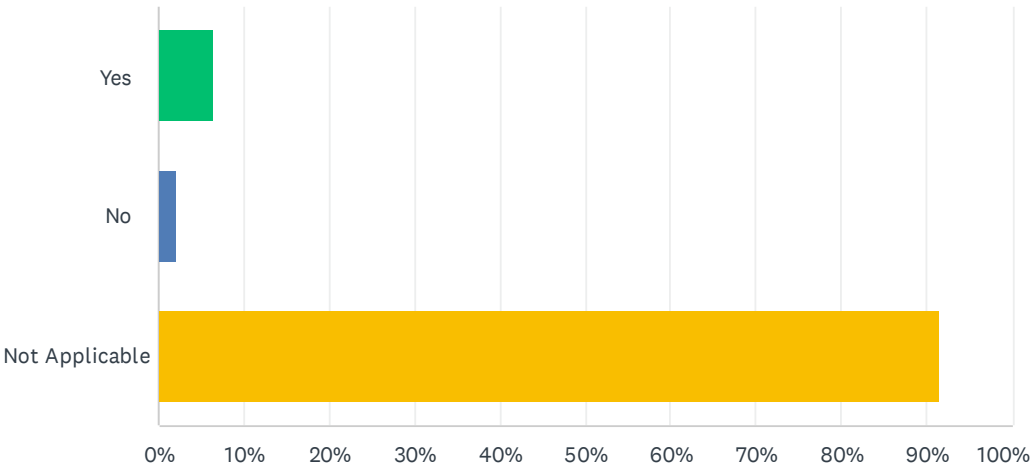
Answered: 67 Skipped: 127



ANSWER CHOICES	RESPONSES	
Flood insurance is too expensive	64.18%	43
I do not know how to purchase flood insurance	23.88%	16
I have tried to purchase flood insurance but have been unsuccessful	11.94%	8
TOTAL		67

Q10 If you rent your place of residence, do you have renter's content insurance?

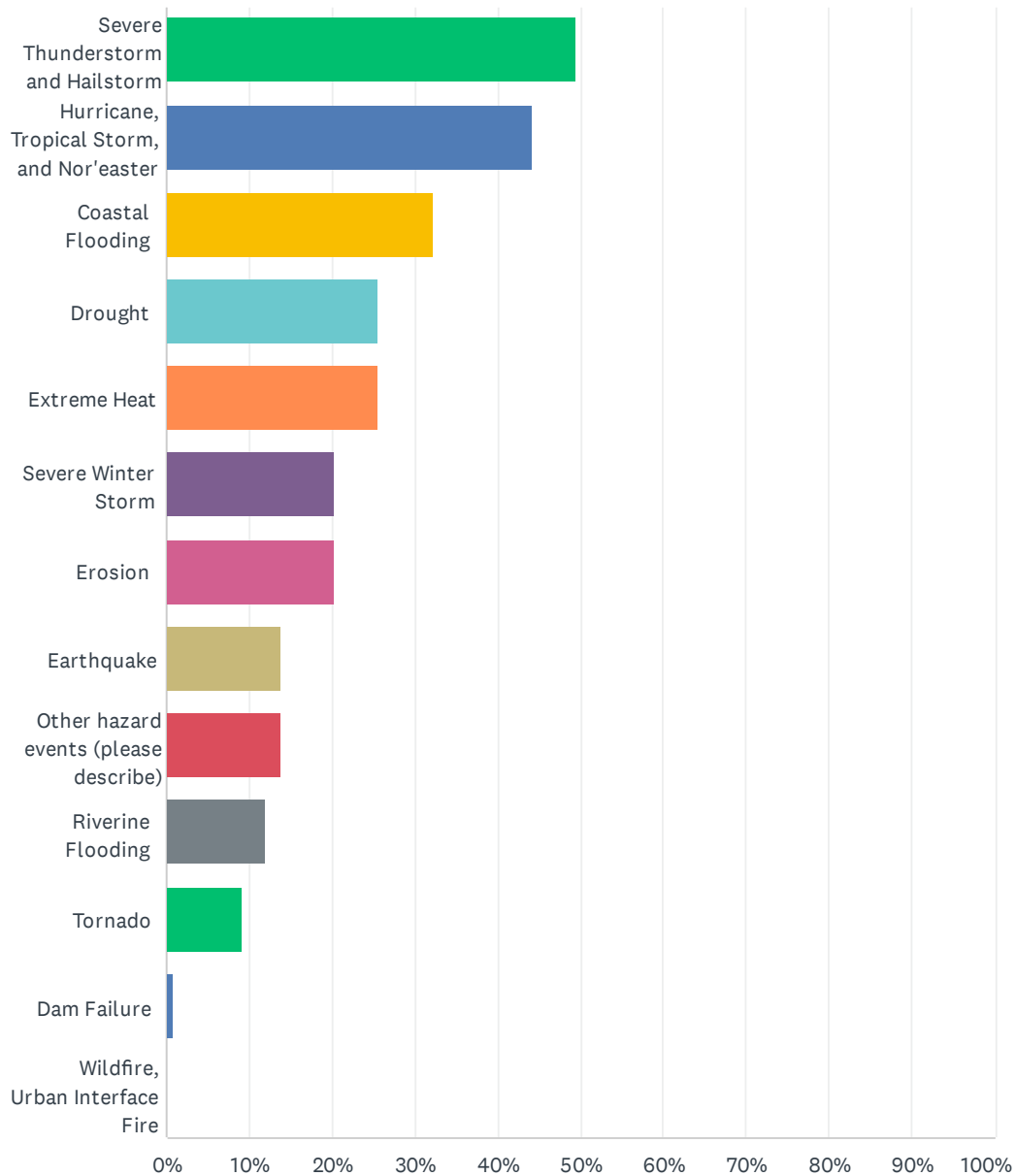
Answered: 141 Skipped: 53



ANSWER CHOICES	RESPONSES	
Yes	6.38%	9
No	2.13%	3
Not Applicable	91.49%	129
TOTAL		141

Q11 If your residence or commercial property has experienced damage from a hazard event, which of the following types of events have you experienced at your property?

Answered: 109 Skipped: 85

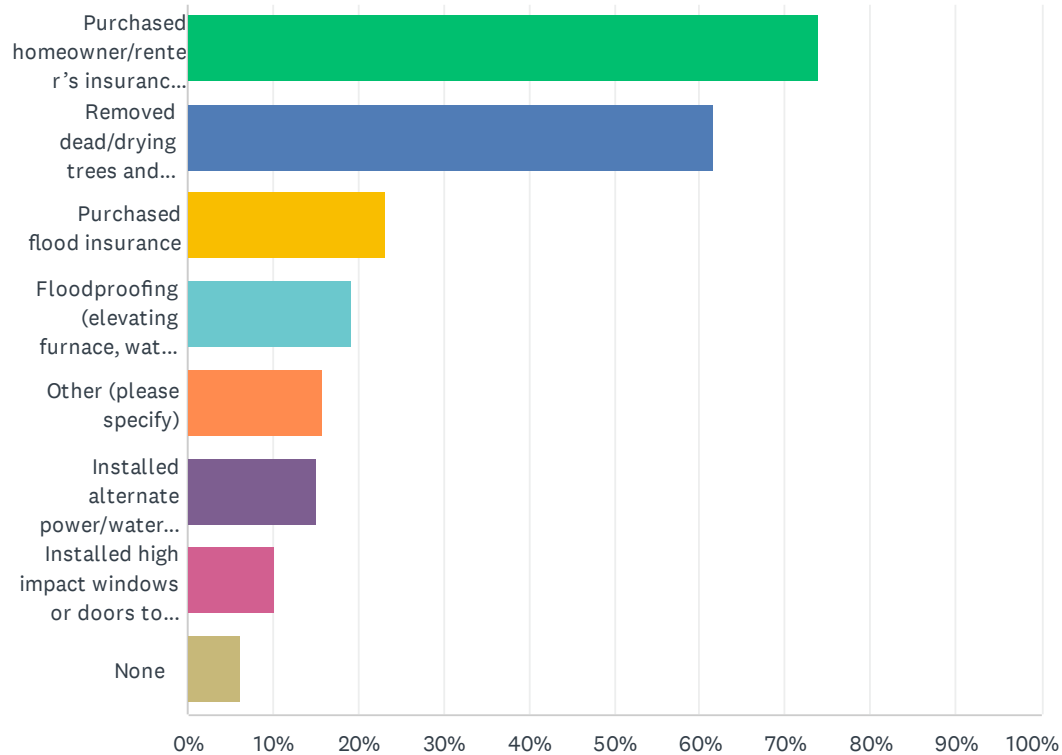


Anne Arundel County Hazard Mitigation Plan Public Survey

ANSWER CHOICES	RESPONSES	
Severe Thunderstorm and Hailstorm	49.54%	54
Hurricane, Tropical Storm, and Nor'easter	44.04%	48
Coastal Flooding	32.11%	35
Drought	25.69%	28
Extreme Heat	25.69%	28
Severe Winter Storm	20.18%	22
Erosion	20.18%	22
Earthquake	13.76%	15
Other hazard events (please describe)	13.76%	15
Riverine Flooding	11.93%	13
Tornado	9.17%	10
Dam Failure	0.92%	1
Wildfire, Urban Interface Fire	0.00%	0
Total Respondents: 109		

Q12 Have you taken any of the following actions to reduce the risk of hazards to your residence or commercial property?

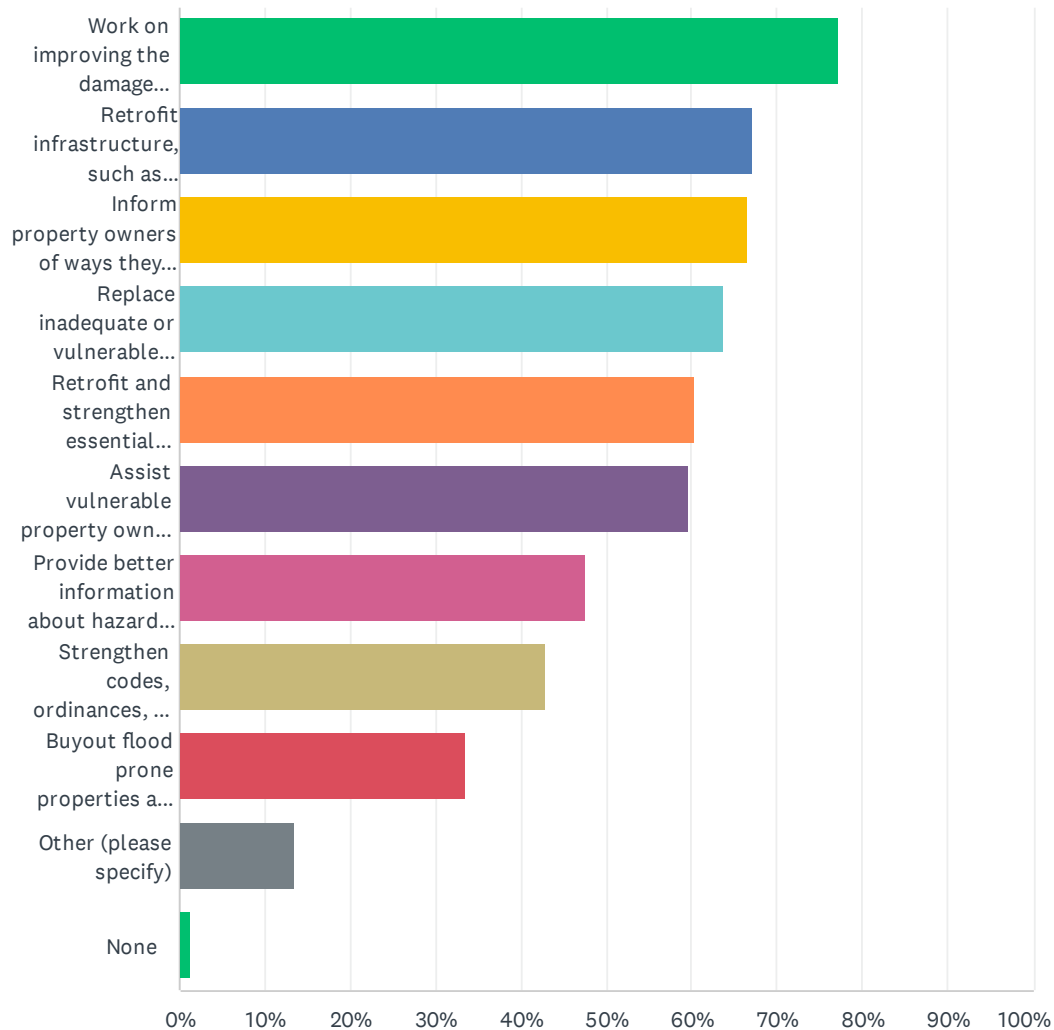
Answered: 146 Skipped: 48



ANSWER CHOICES	RESPONSES	
Purchased homeowner/renter's insurance policies	73.97%	108
Removed dead/drying trees and vegetation from around the home	61.64%	90
Purchased flood insurance	23.29%	34
Floodproofing (elevating furnace, water heaters, electric panels)	19.18%	28
Other (please specify)	15.75%	23
Installed alternate power/water supply	15.07%	22
Installed high impact windows or doors to withstand high winds	10.27%	15
None	6.16%	9
Total Respondents: 146		

Q13 Which of the following mitigation project types do you believe should be focused on to reduce disruptions of services and strengthen the community? (Select all that apply)

Answered: 149 Skipped: 45

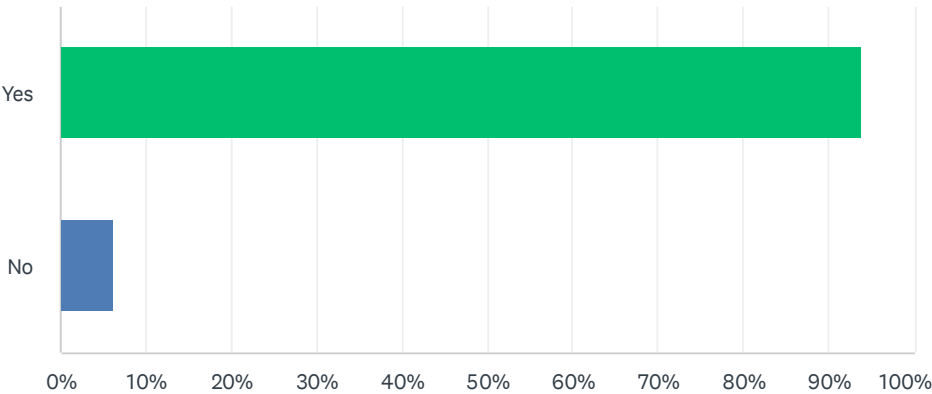


Anne Arundel County Hazard Mitigation Plan Public Survey

ANSWER CHOICES	RESPONSES	
Work on improving the damage resistance of utilities (electricity, communications, water/sewer, etc.)	77.18%	115
Retrofit infrastructure, such as elevating roadways and improving drainage systems	67.11%	100
Inform property owners of ways they can mitigate damage to their property	66.44%	99
Replace inadequate or vulnerable bridges	63.76%	95
Retrofit and strengthen essential facilities such as police, fire, emergency medical services, hospitals, schools, etc.	60.40%	90
Assist vulnerable property owners with securing funding to mitigate impacts to their property	59.73%	89
Provide better information about hazard risk and high-hazard areas	47.65%	71
Strengthen codes, ordinances, and plans to require higher hazard risk management standards	42.95%	64
Buyout flood prone properties and maintain as open space	33.56%	50
Other (please specify)	13.42%	20
None	1.34%	2
Total Respondents: 149		

Q14 Do you support policies to restrict or prohibit development in designated hazard zones?

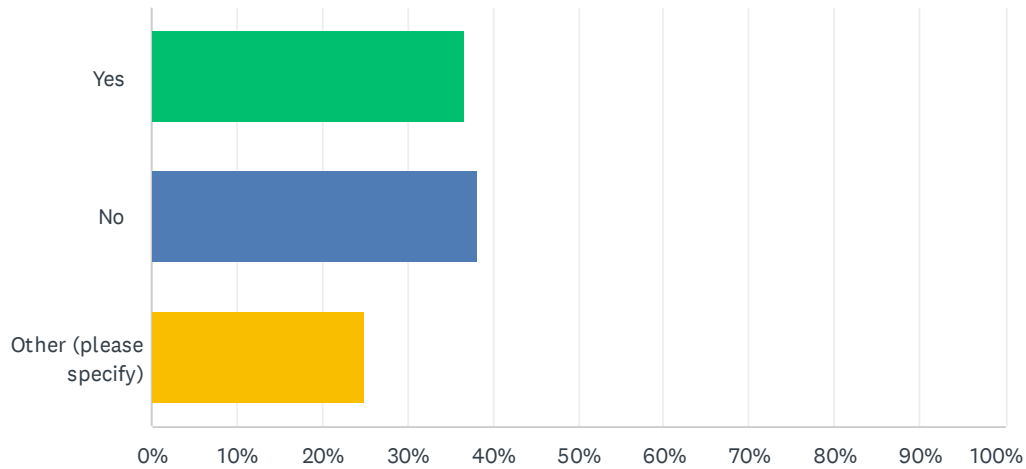
Answered: 144 Skipped: 50



ANSWER CHOICES	RESPONSES	
Yes	93.75%	135
No	6.25%	9
TOTAL		144

Q15 Do you believe that collaboration between the County and Municipalities is adequate in relation to hazard mitigation planning and response?

Answered: 136 Skipped: 58



ANSWER CHOICES	RESPONSES	
Yes	36.76%	50
No	38.24%	52
Other (please specify)	25.00%	34
TOTAL		136

Q16 In the last 10 years, have you evacuated from your home or business as a result of a disaster (e.g., flooding, power outage, water failure)? If so, how long were you displaced? Did you go to a shelter?

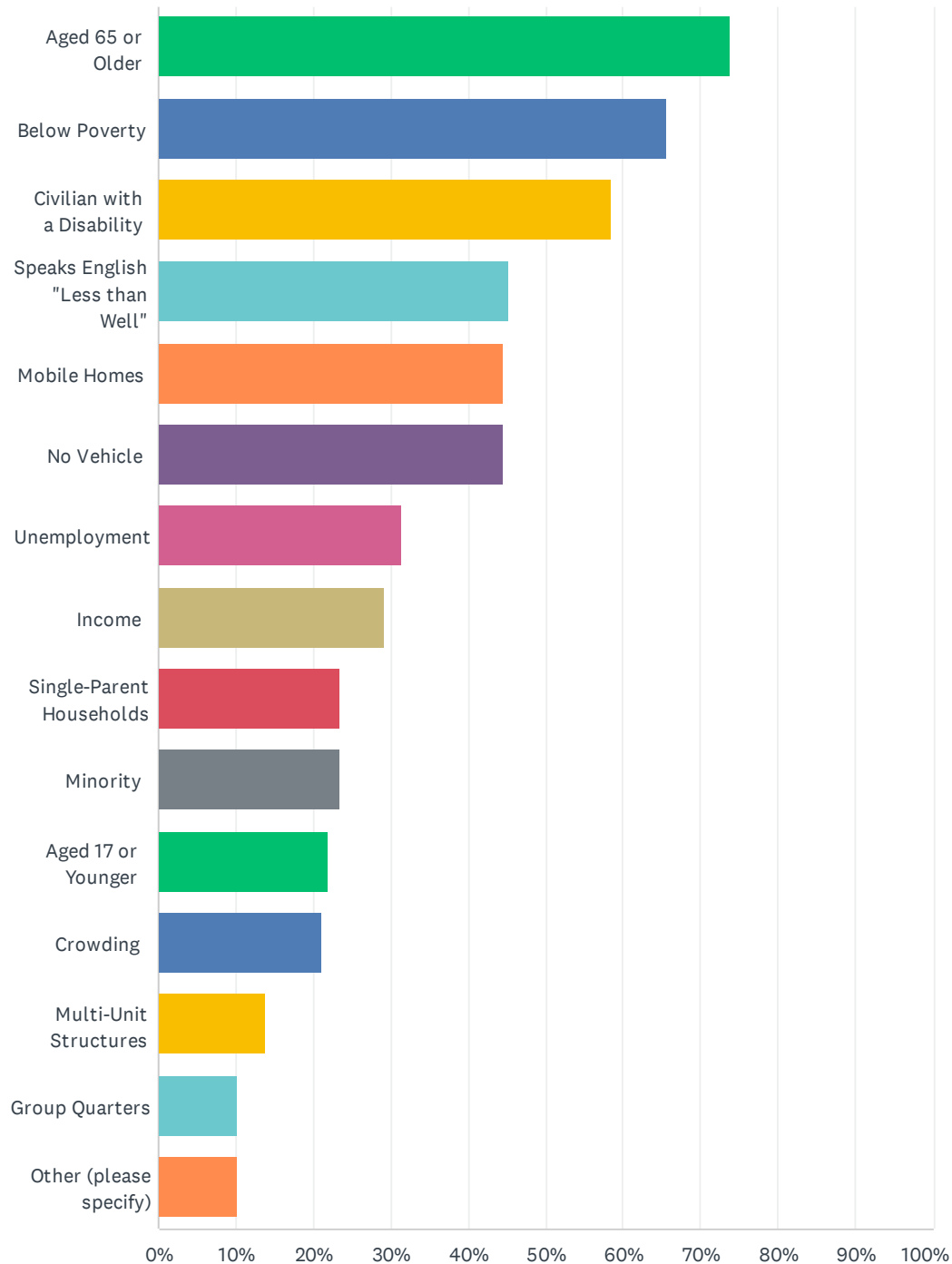
Answered: 113 Skipped: 81

Q17 Are you concerned with any other hazards not identified in this survey?

Answered: 99 Skipped: 95

Q18 In terms of social vulnerability, do you feel that a specific group, or groups, in Anne Arundel County are more at risk or vulnerable to any of the hazards listed in Question 5? (Select all that apply)Note: Centers for Disease Control 15 Social Factors below.

Answered: 137 Skipped: 57

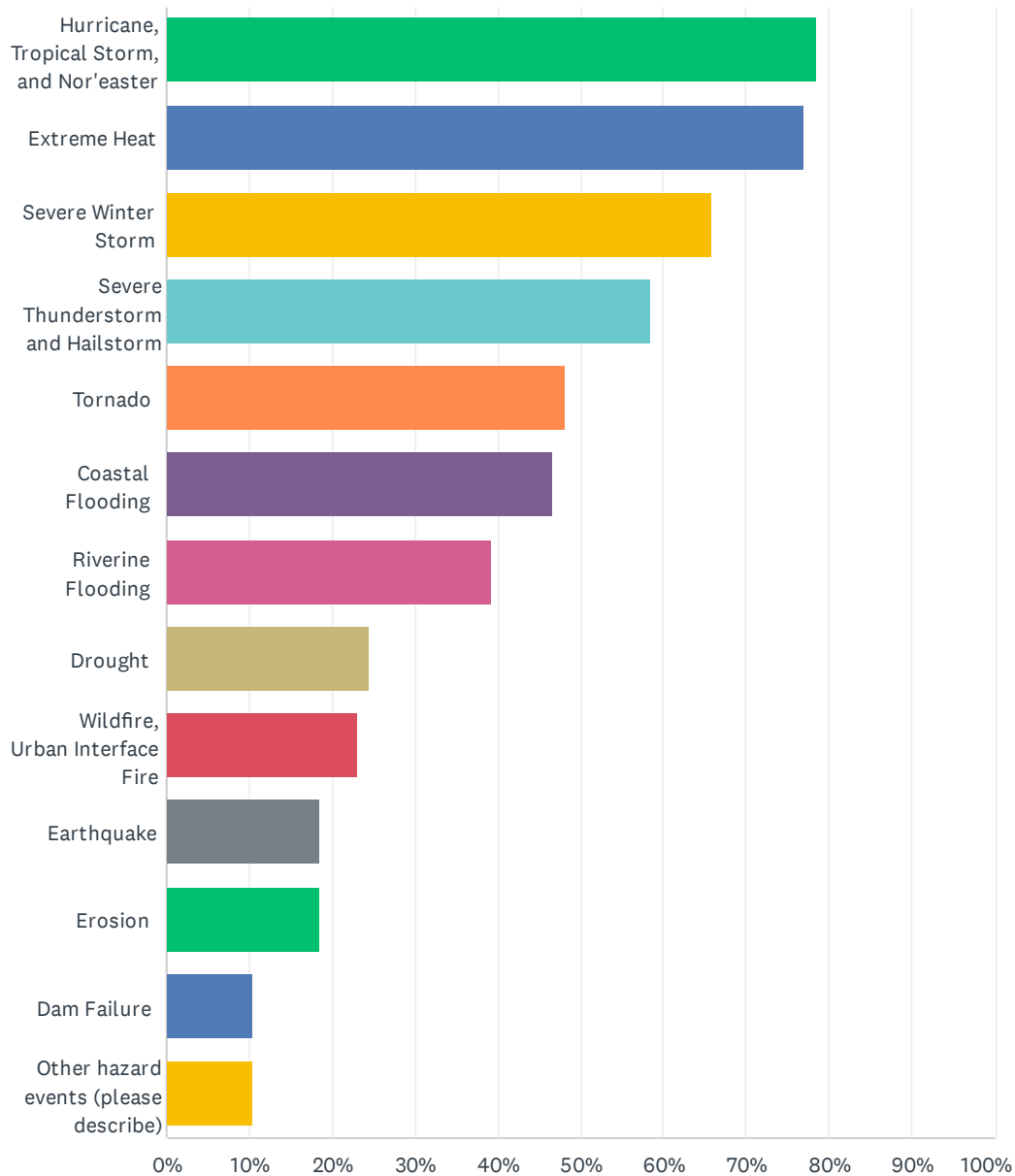


Anne Arundel County Hazard Mitigation Plan Public Survey

ANSWER CHOICES	RESPONSES	
Aged 65 or Older	73.72%	101
Below Poverty	65.69%	90
Civilian with a Disability	58.39%	80
Speaks English "Less than Well"	45.26%	62
Mobile Homes	44.53%	61
No Vehicle	44.53%	61
Unemployment	31.39%	43
Income	29.20%	40
Single-Parent Households	23.36%	32
Minority	23.36%	32
Aged 17 or Younger	21.90%	30
Crowding	21.17%	29
Multi-Unit Structures	13.87%	19
Group Quarters	10.22%	14
Other (please specify)	10.22%	14
Total Respondents: 137		

Q19 Based on the group(s) you have selected in the previous question, please select which hazard events you feel may particularly affect these groups. (Select all that apply)

Answered: 135 Skipped: 59



Anne Arundel County Hazard Mitigation Plan Public Survey

ANSWER CHOICES	RESPONSES	
Hurricane, Tropical Storm, and Nor'easter	78.52%	106
Extreme Heat	77.04%	104
Severe Winter Storm	65.93%	89
Severe Thunderstorm and Hailstorm	58.52%	79
Tornado	48.15%	65
Coastal Flooding	46.67%	63
Riverine Flooding	39.26%	53
Drought	24.44%	33
Wildfire, Urban Interface Fire	22.96%	31
Earthquake	18.52%	25
Erosion	18.52%	25
Dam Failure	10.37%	14
Other hazard events (please describe)	10.37%	14
Total Respondents: 135		

Q20 In your opinion, what steps could be undertaken to reduce or eliminate the risk of future hazard damages?

Answered: 90 Skipped: 104

APPENDIX F

Public Outreach and Meeting Material

ATTACHMENT #1

Outreach and Engagement Plan

Outreach & Engagement

Anne Arundel County Office of Emergency Management (OEM) is conducting an update of the Hazard Mitigation Plan (HMP). The purpose of the HMP is to strategically guide actions and investments to reduce the impacts of natural and human-caused hazards on human life and property. Updates are required every five years, and the last update of the HMP was approved by FEMA in 2020. This Outreach and Engagement Plan describes opportunities for the public and stakeholders to be involved during the update process.

Outreach & Engagement Objectives

- . Raise awareness of hazard mitigation, the update process and when opportunities to provide input will occur.
2. Provide the opportunity to all who live, work, and visit Anne Arundel County to participate in the hazard mitigation plan update process.
 - . Ensure a process that is open and transparent, culturally sensitive, accessible, and ensures that input is considered.
4. Ask for input where the public feedback can authentically influence the plan.
 - . Utilize branding to ensure coordinated outreach efforts so the public may more easily recognize project materials.

Outreach & Engagement Strategy

The update of the Hazard Mitigation Plan requires participation and input from a range of county departments and partners in the planning process. To that end, OEM will implement a transparent approach to the update process initiated in May 2024. The key elements of this public involvement strategy include an online public survey, media releases, meetings, and HMP plan update content on the County website.

The activities and materials outlined in the following sections will be used together to ensure that the public is aware of the project and understands the need for updating the plan.

Attachments included in this appendix are as follows:

- Attachment #1: Proposed Website Changes
- Attachment #2: Media Release
- Attachment #3: Project Briefing Sheet
- Attachment #4: Example Social Media Post

Equitable Outreach and Public Engagement Activities

The HMP is intended to mitigate (i.e., minimize impacts from) hazards for all Anne Arundel County residents, and nonresidents within the County. The HMP update process will not create disproportionate impacts on a particular population or geographic area. However, access to the planning and decision-making process must ensure that diverse voices are heard, and that priorities and strategies emerge that reflect equitable consideration. Input sought will be focused on prioritizing the types of potential future mitigation project community partnerships, and which services are most important to protect from future disaster.

Outreach & Engagement Website Content

OEM's space on the County's website will be used to upload HMP content throughout the plan update process. The website will include the following basic information:

- Project description – *applicable initial Media Release content*
- Downloadable one-page summary about the HMP update
- Dedicated email address for questions/more information
- Outreach and Public Engagement materials (see below)
- Cohesive Draft HMP (end of plan update), along with fillable comment form

Outreach & Engagement Stakeholder Meetings

The Hazard Mitigation Planning Committee (HMPC) is comprised of key stakeholders from various departments, agencies, and organizations. The HMPC member listing was reviewed, updated, and expanded upon for this plan update. HMPC meetings will be held periodically over the plan update process. In addition, small topical meetings will be conducted with targeted stakeholders invited – these include a Social Equity meeting and Floodplain Management meeting. Meeting notes will be developed and distributed.

In addition, OEM staff and various HMPC members attend various hazard mitigation related meetings, workshops, and training sessions throughout the plan update process. Relevant information gleaned from these activities is integrated into the plan update.

Outreach & Engagement Traditional & Social Media

Keeping the public informed throughout the plan update process ensures a wide range of stakeholders (the public, neighboring jurisdictions, interested agencies, private organizations, etc.) are informed about opportunities to comment on the plan.

- New Release - The project team will develop several news releases for submittal to local media outlets. At a minimum, the releases will be issued upon project start-up and completion of the Draft HMP to solicit comments on the planning document.
- Website updates - The project team will post periodic updates regarding the HMP update process to the OEM's website.
- Community Hazard Perspective Online Survey - A survey will be developed to solicit input on local hazard perspective.
- Comment form/survey to collect feedback on the Draft HMP.
- Draft HMP Presentation – The presentation will summarize the HMP process, timeline, changes in hazards and highlight select actions, and ask questions that will help finalize the plan.

Outreach & Engagement Materials

The broader public will be invited to learn about the project, respond to the Community Hazard Perspective Online Survey, and comment on the DRAFT HMP. The following media will be used to communicate with the broader public:

- Direct emails and/or mailings (project briefing sheet) to OEM contact listing
 - HMPC Members
 - Major Employers
 - Federal Agencies
 - State Agencies
 - Private Non-Profits
 - Neighboring Jurisdictions
 - Utilities
 - Towns
 - Academia
- Community Hazard Perspective Online Survey
- Posts on OEM and HMPC member(s) social media

Outreach & Engagement Timeline

The table below provides estimated public outreach dates and milestones related to the HMP update process.

Milestone	Timing	Description
HMPC Meeting #1	May 2024	Kick-off meeting conducted. Meeting notes distributed to all HMPC members.
Initial Press Release	June 2024	Project descriptions and “how to participate” options provided. Links to website and online survey provided.
OEM Website – HMP Content Upload	June 2024	Project descriptions and “how to participate” options provided. Link to online survey provided and 2019 HMP provided.
Online Public Survey	June 2024	Launched via initial press release, website, and social media post.
Social Media Post(s)	June 2024	Description and link to online public survey.
Social Equity Meeting	June 2024	Group discussion on social equity and social vulnerability. Ideas for making this plan update inclusive. Identification of current capabilities and gaps.
Floodplain Management Meeting	June 2024	Review of current capabilities and gaps. Ideas for mitigation actions included in this plan update.
Distribution of Project Briefing Sheet to OEM Contact Listing	July 2024	
OEM Website – HMP Content Upload	July 2024	
Social Media Post(s)	August 2024	
HMPC Meeting #2	August 2024	
OEM Website – HMP Content Upload	September 2024	
Social Media Post(s)	September 2024	
OEM Website – HMP Content Upload	September 2024	
Draft Plan Review Press Release		

ATTACHMENT #2

Proposed Website Changes



Disaster Prevention & Mitigation

The prevention and mitigation efforts aim to reduce the potential damage and suffering that disasters can cause.

Add **new** sub-page "Hazard Mitigation Plan Update" below the "Disaster Mitigation" tab.

Emergency Management

About Us

FSK Bridge Recovery Resources

FAQs

Emergency Notifications

Disaster Mitigation

Disaster Preparedness

Disaster Response

Disaster Recovery



There are five phases of emergency management including prevention, mitigation, preparedness, response, and recovery. Both prevention and mitigation efforts aim to reduce the potential damage and suffering that disasters can cause.

Mitigation Phase

For emergencies that aren't preventable like natural disasters and weather emergencies, the mitigation phase focuses on reducing the impacts of these hazards on life and property. For example, installing flood gauges and informing residents about how to prepare for floods can help minimize flood-related injuries, deaths, and damage to homes. Mitigation measures can also save individuals, communities, and businesses a lot of money as they reduce the amount of damage and therefore the cost of repairs after disasters.

Anne Arundel County's [Hazard Mitigation Plan](#) creates a long-term strategy to reduce the costs and damages caused by disasters. The plan also establishes partnerships between governments, non-governmental organizations, private organizations, and communities. This helps to create more resilient communities and reduce the costs of disaster response and recovery.

Individuals, communities, and businesses can help reduce the effects of some disasters with the following tips:

More Mitigation Measures, More Savings



**One dollar invested in mitigation =
six dollars U.S. saves in future costs**



Add two new sentences to the beginning of the second paragraph:

"Anne Arundel County is currently in the process of updating its [2018 Hazard Mitigation Plan](#) (*hyperlink to current plan*)! You can keep up to date with the planning process [here](#) (*hyperlink to the new "Hazard Mitigation Plan Update" sub-tab*).

Keep this text but remove the hyperlink.



Hazard Mitigation Plan Update

Learn more about the Hazard Mitigation Plan Update below. Participate by taking a survey!

New sub-page.

Emergency Management

[About Us](#)[FSK Bridge Recovery Resources](#)[FAQs](#)[Emergency Notifications](#)[Disaster Mitigation](#)[Hazard Mitigation Plan](#)[Disaster Preparedness](#)[Disaster Response](#)[Disaster Recovery](#)

CONTACT INFORMATION

The Planning Process

Refer to text in the initial News Release. Include project point of contact email address, as well as link to One-Page Project Summary sheet.

Outreach and Public Engagement

Public Survey

Meeting Notes

Comment Form

You can submit comments for working draft chapters or the final plan by clicking on the comment form links below.



Hazard Mitigation Plan Update

Learn more about the Hazard Mitigation Plan Update below. Participate by taking a survey!

Emergency Management

[About Us](#)[FSK Bridge Recovery Resources](#)[FAQs](#)[Emergency Notifications](#)[Disaster Mitigation](#)[Hazard Mitigation Plan](#)[Disaster Preparedness](#)[Disaster Response](#)[Disaster Recovery](#)

CONTACT INFORMATION

Working Draft Chapters for Review

Working draft chapters are provided below for your review and comment.

***Insert Comment Form** - The form should include Contact Information (Name and Email), and fields to indicate Section, Page Number, and Comment.

[SUBMIT COMMENTS](#)

Final Draft

A cohesive draft of the plan will be made available towards the end of the planning process. In the meantime, you can review drafts of individual chapters as they are released.

***Insert Comment Form** - The form should include Contact Information (Name and Email), and fields to indicate Section, Page Number, and Comment.

[SUBMIT COMMENTS](#)

ATTACHMENT #3

Media Release

Media Release
Hazard Mitigation Plan Update
Anne Arundel County, Maryland

Anne Arundel County, MD – (Date):

Anne Arundel County's Office of Emergency Management is seeking **public input** on the Hazard Mitigation Plan Update. The Hazard Mitigation Plan identifies potential hazards and lists future projects that may reduce or eliminate damage before a disaster strikes. The purpose of a hazard mitigation plan is to:

- 1) Increase awareness of hazards and associated risk;
- 2) Build partnerships for risk reduction;
- 3) Identify projects and actions to reduce risk.

Anne Arundel County has experienced numerous hazard incidents throughout its history and has undertaken mitigation actions and projects to help reduce hazard risk and future losses. Mitigation not only saves lives, but also reduces disaster costs. For every \$1 spent on disaster mitigation, more than \$6 is saved that would have been used responding to or recovering from disaster.

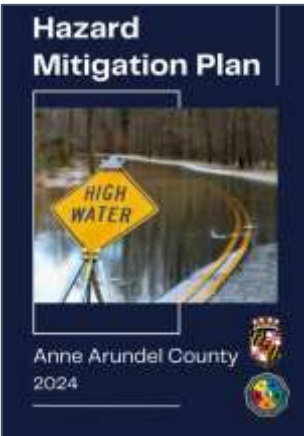
Input from residents, community members, workers, utility companies, and business owners will help ensure the success of the County's hazard mitigation plan and projects. There are a variety of ways community members and stakeholders can participate:

- **Public Survey:** Take a survey to provide feedback on concerns regarding local hazards and disaster risk. The survey is 20 questions and takes around 10 minutes to complete.
 - Survey is located at <https://www.surveymonkey.com/r/SVFPNBH> or you can scan the QR Code below.
- **Follow Us:** Follow us on Facebook at <https://www.facebook.com/AACOOEM/> for hazard mitigation updates and other emergency preparedness, response, and recovery information.
- **Spread the Word:** Tell your family, friends, and neighbors about the plan and how they can help!
- **Reach Out:** For questions regarding the plan, contact Kerry Topovski, Office of Emergency Management at emtopo22@aacounty.org.
- **Review the Plan:** Learn more about the Anne Arundel County Hazard Mitigation Plan at www.aacounty.org/emergency-management/disaster-mitigation. You can review the current plan (2018) [here](#).



Public Survey – Scan Me!

ATTACHMENT #
Project Briefing Sheet



Anne Arundel County Hazard Mitigation Plan Overview

The Hazard Mitigation Plan forms the foundation for Anne Arundel County and its municipalities long-term strategy to reduce disaster losses and break the cycle of disaster damage, reconstruction, and repeated damage. The purpose of this plan is to identify, plan, and implement cost-effective hazard mitigation measures through a comprehensive approach known as hazard mitigation planning. This planning process will result in an updated Hazard Mitigation Plan. The Federal Emergency Management Agency (FEMA) requires hazard mitigation plans to be updated every five years and has awarded a planning grant to assist the County.

Anne Arundel County Office of Emergency Management (OEM) was awarded a FEMA Hazard Mitigation Planning Grant to update the **Anne Arundel County Hazard Mitigation Plan**. OEM is the lead agency for this plan update. The [OEM website](http://www.aacounty.org/emergency-management/disaster-mitigation) includes additional information on this planning project at <http://www.aacounty.org/emergency-management/disaster-mitigation>.

Approved and locally adopted hazard mitigation plans are necessary for specific FEMA grant project funding eligibility, including, but not limited to:

- Hazard Mitigation Grant Program (HMGP),
- Flood Mitigation Assistance Grant Program (FMAG),
- Building Resilient Infrastructure and Communities (BRIC), and,
- Rehabilitation of High Hazard Potential Dam (HHPD) Grant Program.

Input from residents, community members, workers, utility companies, and business owners will help ensure the success of the County's hazard mitigation plan and projects. Please take a survey to provide feedback on concerns regarding local hazards and disaster risk. The survey is 20 questions and takes around 10 minutes to complete.

The [survey](https://www.surveymonkey.com/r/SVFPNBH) is located at <https://www.surveymonkey.com/r/SVFPNBH> or you can scan the QR Code below.



Public Survey – Scan Me!

Your participation is greatly appreciated!

For questions regarding the plan, contact Kerry Topovski, Office of Emergency Management at emtopo22@aacounty.org.

ATTACHMENT #

Example Social Media Post

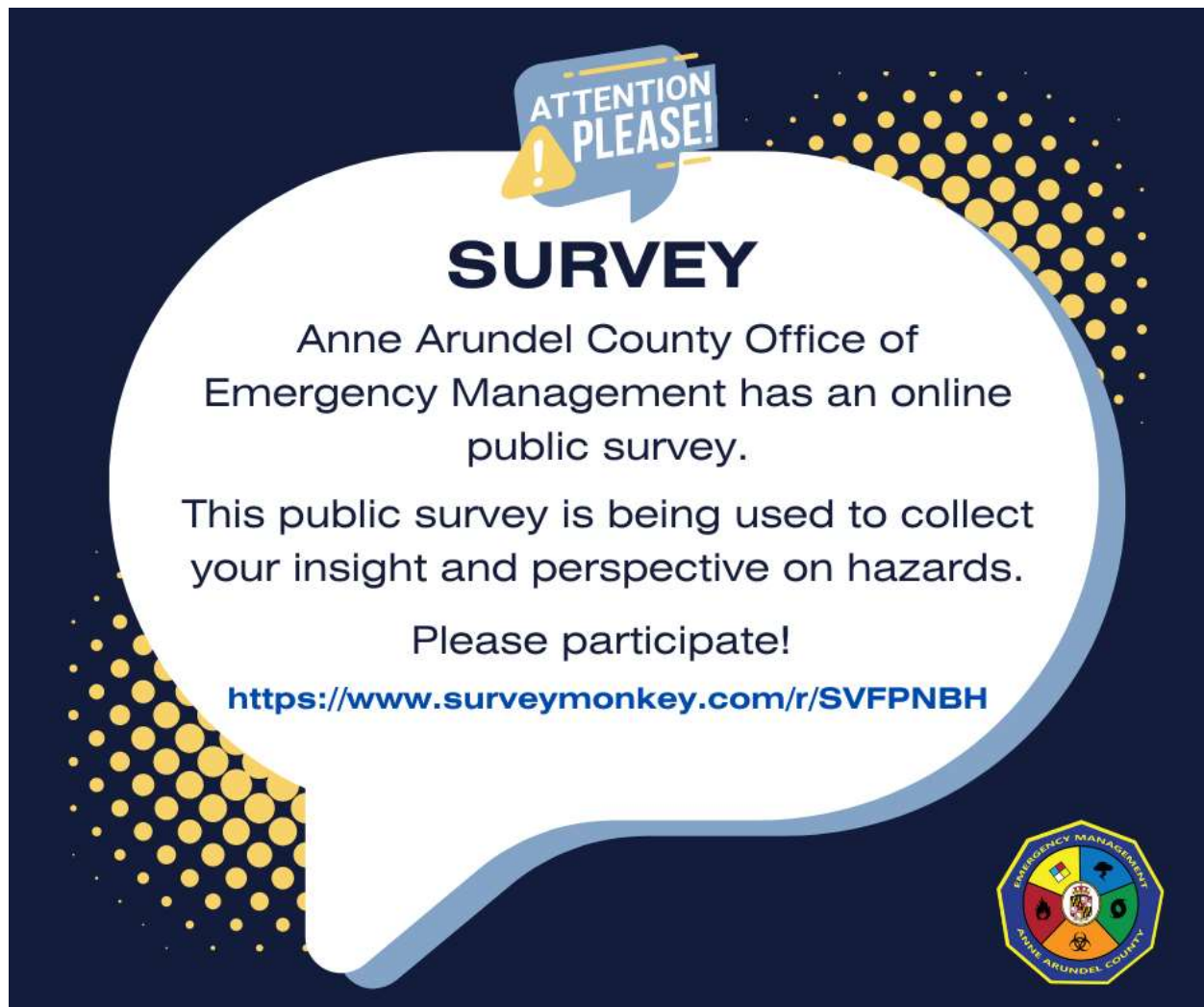
YOUR ASSISTANCE IS REQUESTED – Please complete the survey!

The Anne Arundel County Office of Emergency Management (OEM) is seeking input regarding potential hazards and disasters. This survey is being used to collect your insight and perspective on hazards identified in the County's Hazard Mitigation Plan.

The Hazard Mitigation Plan forms the foundation of the County's long-term strategy to reduce disaster losses and break the cycle of disaster damage, reconstruction, and repeated damage. The purpose of this plan is to identify, plan, and implement cost-effective hazard mitigation measures through a comprehensive approach known as hazard mitigation planning. The Federal Emergency Management Agency (FEMA) requires hazard mitigation plans to be updated every five years.

Please provide your perspective by clicking the link below and completing the public survey. Thank you.


Survey Link: <https://www.surveymonkey.com/r/SVFPNBH>

A graphic with a dark blue background and a pattern of yellow dots. A large white speech bubble is centered, containing text about a survey. Above the bubble is a blue tag with a yellow exclamation mark and the text 'ATTENTION PLEASE!'. In the bottom right corner is the Anne Arundel County Office of Emergency Management logo, which is a circular seal with various hazard symbols and the text 'EMERGENCY MANAGEMENT' and 'ANNE ARUNDEL COUNTY'.


ATTACHMENT #6

Public Open House Presentation

Hazard Mitigation Plan



Anne Arundel County
2025



Public Meeting and Open House

1

Things to be covered in this Presentation

- Hazard Mitigation Plan and Project Overview
- Planning Process Overview
- Risk Assessment Summary
- Capability Assessment Overview
- Mitigation Strategy Summary
- Next Steps and Action Items

2025 Anne Arundel County Hazard Mitigation Plan Update

2

Hazard Mitigation Plan and Project Overview



2025 Anne Arundel County Hazard Mitigation Plan Update

3

Project Overview

- The [Disaster Mitigation Act of 2000](#) (Public Law 106-390) requires State, local, or tribal governments to develop and submit for approval a mitigation plan that outlines processes for identifying the natural hazards, risks, and vulnerabilities of the area under the jurisdiction of the government.
- Plans must be updated every 5 years.
- **The current Anne Arundel County Hazard Mitigation Plan expires in June 2025.**

2025 Anne Arundel County Hazard Mitigation Plan Update

4

Project Overview

- Anne Arundel County has been working to **update the Hazard Mitigation Plan** since March 2024.
- The Hazard Mitigation Committee participated in their first committee **meeting on April 25.**
- Today, the goal is to learn more about **the Hazard mitigation Planning Process.**

2025 Anne Arundel County Hazard Mitigation Plan Update

5

What is Hazard Mitigation?




Hazard mitigation is any **sustained action taken to reduce or eliminate long-term risk** to life and property resulting from natural and human-made hazards.

2025 Anne Arundel County Hazard Mitigation Plan Update

6

What is a Hazard Mitigation Plan?

- A Hazard Mitigation Plan (HMP) is a **community-driven, living document** that communities use to reduce their vulnerability to hazards.
- Counties **must have a plan to maintain access to certain mitigation grants.**
- New Local Mitigation Planning Policy Guide **Effective April 19, 2023**, will be used for this plan update – Includes elements to address equity, social vulnerability and underserved comm



2025 Anne Arundel County Hazard Mitigation Plan Update

7

Planning Process Overview

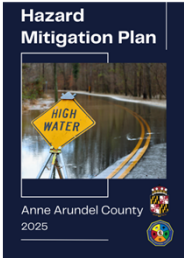


2025 Anne Arundel County Hazard Mitigation Plan Update

8

Plan Components

1. Executive Summary
2. Community Profile
3. Planning Process
4. Risk Assessment
5. Capability Assessment
6. Mitigation Strategy
7. Plan Maintenance
8. Approval & Adoption

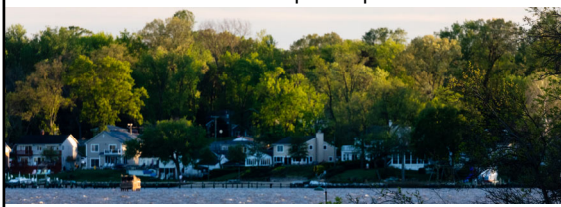


2025 Anne Arundel County Hazard Mitigation Plan Update

9

Community Profile

- Community Profile:
 - Geography in the Anne Arundel County
 - Community facts and key statistics
 - Demographic patterns
 - Land use and development patterns



2025 Anne Arundel County Hazard Mitigation Plan Update

10

Planning Process

- Planning Team Assessment and Participation:
 - Kick-Off Meeting (April)
 - Project Overview
 - HMPC Roles and Responsibilities
 - Hazard Risk Review & Ranking
 - Risk Ranking Evaluation
 - Mid Point - Risk Assessment (September)
 - Hazard Profile Report out
 - Community Capability Assessment
 - Mitigation Solutions Workshop (November)
 - 2018 Plan Mitigation Action Review
 - New Mitigation Action Identification

2025 Anne Arundel County Hazard Mitigation Plan Update

11

Hazard Mitigation Planning Committee Members

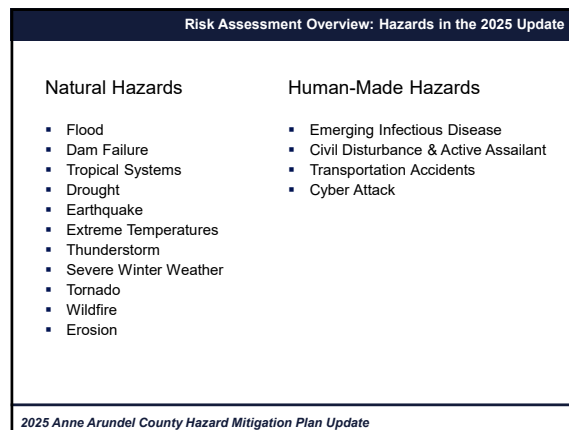
Office of Emergency Management
Office of the County Executive
Deputy Chief Administrative Officer
Office of Law
Office of Central Services, Risk Management
Department of Public Works
Department of Health
Department of Aging & Disabilities
Department of Social Services
Department of Transportation
Office of Planning and Zoning
Inspections and Permits
Fire Department
Police Department
Office of Information Technology
Recreation and Parks
Economic Development Corporation
Resilience Authority
Partnership for Children, Youth, & Families
Mayor of Highland Beach
Annapolis City Office of Emergency Management

2025 Anne Arundel County Hazard Mitigation Plan Update

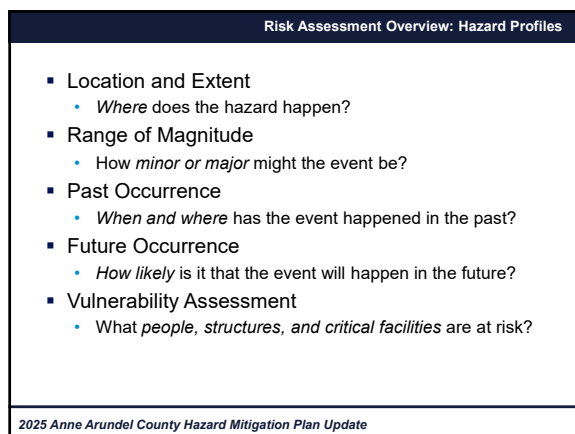
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13



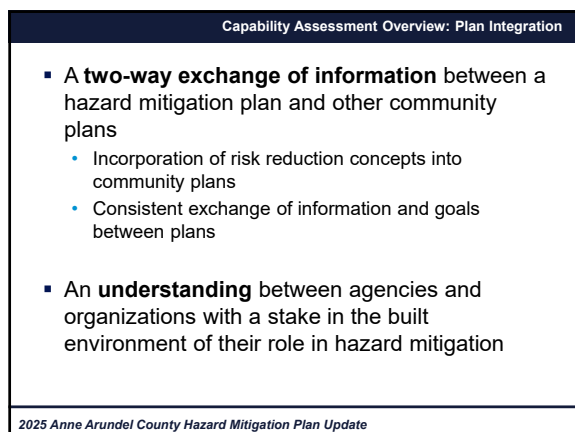
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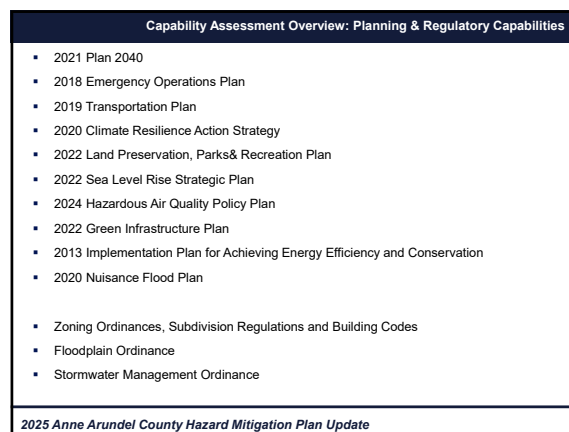
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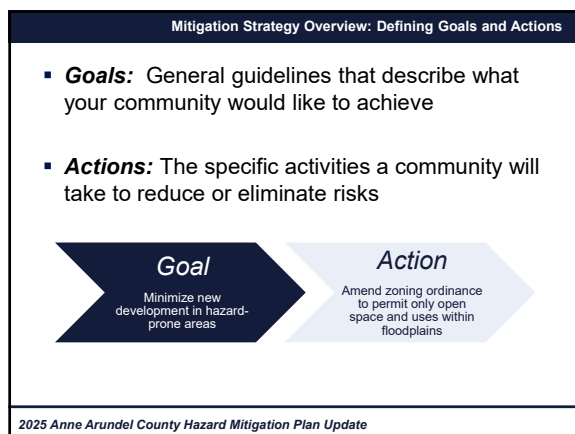
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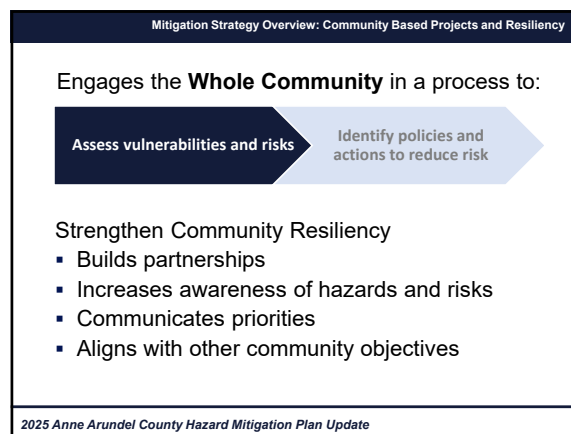
19



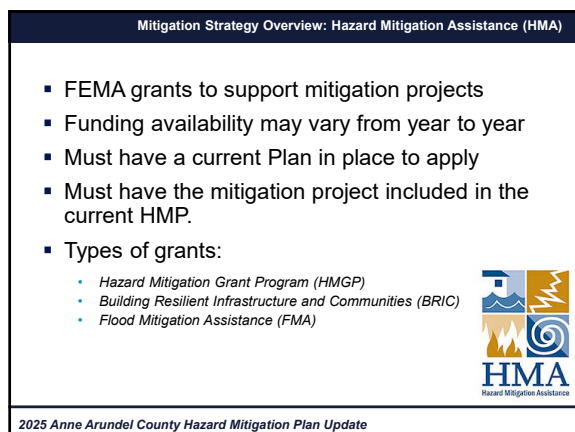
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22



23



24

Draft Hazard Mitigation Plan to MDEM / FEMA	
Planning Timeline	
Task	Dates
Full Project Timeline	March 2024 – January 2025
Kick Off Meeting	April 25, 2024
Public Meetings	September/October 2024
Midpoint Meeting	December 2024
Mitigation Strategy	January 2025 (Workshop)
Draft Plan Review Public Open House	January 2025
MDEM/FEMA Review Period	February – May 2025
Adoption	June 2025

2025 Anne Arundel County Hazard Mitigation Plan Update

25

Thank You
<p>Mark James Michael Baker International mark.james@mbakerintl.com (443) 938-0479</p>

2025 Anne Arundel County Hazard Mitigation Plan Update

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ATTACHMENT #7

Public Hazard Mitigation Handout



ANNE ARUNDEL COUNTY HAZARD MITIGATION PLAN

2025 UPDATE

What is Hazard Mitigation?

Hazard mitigation is an action to help reduce long-term risks caused by hazards or disaster, such as flooding, wildfires, of landslides. The purpose of hazard mitigation is to protect people and structures and minimize the costs of disaster response and recovery. Hazard mitigation can take many forms: capital projects, policies, education, and environmental protection.

Proactive mitigation leads to more cost-effective projects. By contrast, reactive mitigation tends to lead to severe damages and often more costly fixes: it simply costs too much to address the effects of disaster only after they happen. A surprising amount of damage can be prevented if we can anticipate where and how disasters occur and take steps to prevent those damages.

What is a Hazard Mitigation Plan?

Hazard Mitigation Plans are prepared and adopted by counties and municipalities with the primary purpose of identifying, assessing, and reducing the long-term risk to life and property from hazard events. Hazard Mitigation Plans are most effective when they are based on a comprehensive, long-term plan that is developed before a disaster occurs.

Effective mitigation planning can break the cycle of disaster damage, reconstruction, and repeated damages. There are four key elements of the Plan: 1.) risk assessment 2.) capability assessment 3.) mitigation strategy and 4.) plan maintenance.

The purpose of mitigation planning is to identify local policies and actions that can be implemented over the long term to reduce risk and future losses from hazards. These mitigation policies and actions are identified based on an assessment of hazard risks and the participation of a wide range of stakeholders and the public in the planning process.

PURPOSE

The Anne Arundel County Office of Emergency Management is leading up the 2025 Hazard Mitigation Plan. This plan is an opportunity to detail a variety of potential hazards that could affect some or all of our residents and will also allow the County to be eligible for future mitigation funding from the Federal Emergency Management Agency (FEMA).

The goal of the Plan is to identify projects that can reduce damages from future hazards. The Plan includes a risk assessment and hazard mitigation strategy. The primary hazards of concern in the County includes: Flood Dam Failure Tropical Systems, Drought, Earthquake, Extreme Temperatures, Thunderstorm, Severe Winter Weather, Tornado Wildfires, Erosion, Emerging Infectious Disease, Civil Disturbance & Active Assailant, Transportation Accidents, and Cyber Attacks.

The Plan will focus on existing buildings and potential future development, and lifelines that might be impacted to municipal buildings and infrastructure such as power-generation facilities, water utilities, roadways, railroads, and communication systems.

What are the Benefits of Hazard Mitigation?

Mitigation planning will help Anne Arundel County prepare for disasters before they happen, and reduce impacts when disasters occur.

Benefits include:

- Identifying actions for risk reduction that are agreed upon by stakeholders and the public.
- Focusing resources on the greatest risk and vulnerabilities.
- Building partners by involving citizens, organizations, and businesses.
- Increasing education and awareness of threats and hazards, as well as their risks.
- Communicating priorities to state and federal officials.
- Aligning risk reduction with other community objectives.

What is Required in a Hazard Mitigation Plan?

FEMA regulations require that the public must be engaged in all phases of Plan development. The Plan should review and incorporate existing plans and programs that can support or enhance hazard mitigation. The Plan must assess the risk to natural hazards that may impact the planning area and identify and prioritize mitigation actions that can be taken. The Plan must also include a strategy to maintaining the plan, which must be updated every 5 years.

For more information:

Kerry Topovski
Project Development Administrator
Anne Arundel County Office of Emergency
Management
emtopo22@aacounty.org
(410) 222-0612

FAQ

How can you reduce/eliminate risk? Identify mitigation actions that can include 1.) local plans and regulations, 2.) structure and infrastructure, 3.) natural systems protection, 4.) education and awareness programs.

How can I get involved?

You can take our public survey by scanning the QR code below. Please share!



What Grant funding is available? FEMA Hazard Mitigation Assistance (HMA) annual and post disaster grant funding is available with a FEMA approved Plan.

<https://www.fema.gov/grants/mitigation>

Where can I see the 2025 Plan? Sections of the draft Plan are available for review on the Anne Arundel County Office of Emergency Management website at:

<https://www.aacounty.org/emergency-management/hazard-mitigation-plan-2025-update>

Hazard Mitigation Plan



Anne Arundel County
2025



ATTACHMENT #8

Outreach Tracker

OEM Hazard Mitigation 2025 Plan Update Outreach Tracker			
Date	Platform	What was shared	Note
July 13th 2025	Facebook	Post	
August 2nd 2025	Facebook	Post	
August 9th 2025	Facebook	Damage assesment form with HMP information	
August 16th 2025	Facebook	Post	
August 30th 2025	Facebook	Post	
August 9th 2025	X (Twitter)	Damage assesment form with HMP information	
June 27th 2025	NextDoor	Post	
August 9th 2025	NextDoor	Damage assesment form with HMP information	
September 25th 2025	NextDoor	Post	
July 17th 2025	Public Meeting	Flyer and Presnetation	
July 20th 2025	Outreach Event	Flyer	
August 6th 2025	Outreach Event	Flyer	
August 11th2025	Outreach Event	Flyer	
August 25th 2025	Outreach Event	Flyer	
September 9th 2025	Local Emergency Planning Committee (LEPC) meeting	Presentation	
September 25th 2025	County Executive Update	Flyer / Website link	
October 15th - November 15th 2025	The Patch Newspaper	Flyer	Each of the 8 communities were public meeting were held were targeted with specific ads
September 19th 2025	Hoodline paper	Article	
March 19th 2025	AAACert meeting	Flyer and Presnetation	
December 11th 2025	Public Meeting	Flyer and Presnetation	
December 3rd 2025	Public Meeting	Flyer and Presnetation	
November 14th 2025	Public Meeting	Flyer and Presnetation	
November 14th 2025	Public Meeting	Flyer and Presnetation	
September 30th 2025	Public Meeting	Flyer and Presnetation	
October 14th 2025	Public Meeting	Flyer and Presnetation	
September 20th 2025	Email Chain to Stakeholders	Meeting schedule	
October 21st 2025	Public Meeting	Flyer and Presnetation	
October 30th 2025	Public Meeting	Flyer and Presnetation	
June 29th 2025	Outreach Event	Flyer	
June 30th 2025	Outreach Event	Flyer	
August 10th 2025	Outreach Event	Flyer	
August 13th 2025	Outreach Event	Flyer	
September 14th 2025	Outreach Event	Flyer	
September 20th 2025	Meeting	Presentation	
October 16th 2025	Severna Park Voice Newsletter	Information	
October 4th - December 11th 2025	Baltimore Sun	Information	
November 2025	Severna Park Print Ad	Infromation	
December 2025	Severna Park Print Ad	Infromation	
September 28th 2025	Outreach Event	Flyer	
June - Current 2025	Public Facing Website	All Information	

APPENDIX G

Highland Beach Hazards Documented Damages

ATTACHMENT #1

Hurricane



TOWN OF HIGHLAND BEACH

(INCORPORATED 1922)

3243 WALNUT DRIVE

Highland Beach, Maryland 21403

Telephone (443) 837-5184

MAYOR

Crystal Chissell

COMMISSIONER

Michele Fuller

G. William Hunter

Sheila Jeanne Murchison

Linda Holmes Newton

TREASURER

Ronald L. Stokes, Sr.

Hurricane Hazard Evidence of Damages from Hurricane Sandy

Hurricane Hazard – Damages
from Hurricanes

- Hurricane Sandy 2012 Pic 1



Hurricane Hazard – Damages from Hurricanes

- Hurricane Sandy 2012 Pic 2



Hurricane Hazard – Damages from Hurricanes

- Hurricane Sandy 2012 Pic 3



Hurricane Hazard – Damages
from Hurricanes

- Hurricane Sandy 2012 Pic 4



Hurricane Hazard – Damages
from Hurricanes

- Hurricane Sandy 2012 Pic 5



Hurricane Hazard – Damages from Hurricanes

- Hurricane Sandy 2012 Pic 6



Hurricane Hazard – Damages
from Hurricanes

- Hurricane Sandy 2012 Pic 7



Hurricane Hazard – Damages from Hurricanes

- Hurricane Sandy 2012 Pic 8



Hurricane Hazard – Damages from Hurricanes

- Hurricane Sandy 2012 Pic 9



Hurricane Hazard – Damages from Hurricanes

- Hurricane Sandy 2012 Pic 10



ATTACHMENT #2

Coastal Storm



TOWN OF HIGHLAND BEACH

(INCORPORATED 1922)

3243 WALNUT DRIVE

Highland Beach, Maryland 21403

Telephone (443) 837-5184

MAYOR

Crystal Chissell

COMMISSIONER

Michele Fuller

G. William Hunter

Sheila Jeanne Murchison

Linda Holmes Newton

TREASURER

Ronald L. Stokes, Sr.

Coastal Hazard Recorded Tidal Surge Events

AA County Hazard Mitigation Plan

Highland Beach Historic Storm Damage Photos

Highland Beach and Venice Beach experience various types of storms, including windstorms, nor'easters, and heavy rainstorms. Over the years, these storms have caused significant damage to the area. In this section, we document the storm-related damage sustained in different categories and various dates.

Coastal Hazard – recorded tidal surge events

- June 29, 2012 Storm Pic 1



Coastal Hazard – recorded tidal surge events

- June 29, 2012 Storm Pic 2



Coastal Hazard – recorded tidal surge events

- June 29, 2012 Storm Pic 3



Coastal Hazard – recorded tidal surge events

- June 29, 2012 Storm Pic 4



Coastal Hazard – recorded tidal surge events

- June 29, 2012 Storm Pic 5



Coastal Hazard – recorded tidal surge events

- June 29, 2012 Storm Pic 6



Coastal Hazard – recorded tidal surge events

- June 29, 2012 Storm Pic 7



Coastal Hazard – recorded tidal surge events

- October 19, 2019 Storm Pic 1



Coastal Hazard – recorded tidal surge events

- October 19, 2019 Storm Pic 2



Coastal Hazard – recorded tidal surge events

- October 19, 2019 Storm Pic 3



Coastal Hazard – recorded tidal surge events

- October 19, 2019 Storm Pic 4



Coastal Hazard – recorded tidal surge events

- October 19, 2019 Storm Pic 5



Coastal Hazard – recorded tidal surge events

- October 19, 2019 Storm Pic 6



Coastal Hazard – recorded tidal surge events

- April 30, 2020 Storm Pic 1



Coastal Hazard – recorded tidal surge events

- April 30, 2020 Storm Pic 2



Coastal Hazard – recorded tidal surge events

- April 30, 2020 Storm Pic 3



Coastal Hazard – recorded tidal surge events

- April 30, 2020 Storm Pic 4



Coastal Hazard – recorded tidal surge events

- April 30, 2020 Storm Pic 5



Coastal Hazard – recorded tidal surge events

- April 30, 2020 Storm Pic 6



Coastal Hazard – recorded tidal surge events

- October 29, 2021 Storm Pic 1



Coastal Hazard – recorded tidal surge events

- October 29, 2021 Storm Pic 2



Coastal Hazard – recorded tidal surge events

- October 29, 2021 Storm Pic 3



Coastal Hazard – recorded tidal surge events

- October 29, 2021 Storm Pic 4



Coastal Hazard – recorded tidal surge events

- October 29, 2021 Storm Pic 5



Coastal Hazard – recorded tidal surge events

- October 29, 2021 Storm Pic 6



Coastal Hazard – recorded tidal surge events

- October 29, 2021 Storm Pic 7



Coastal Hazard – recorded tidal surge events

- October 29, 2021 Storm Pic 8



Coastal Hazard – recorded tidal surge events

- October 29, 2021 Storm Pic 9



Coastal Hazard – recorded tidal surge events

- October 29, 2021 Storm Pic 10



Coastal Hazard – recorded tidal surge events

- October 29, 2021 Storm Pic 11



Coastal Hazard – recorded tidal surge events

- October 29, 2021 Storm Pic 12



Coastal Hazard – recorded tidal surge events

- **Fall 2021 Before And After King Tide**



Sand for a minute...



then King Tide!



Coastal Hazard – recorded tidal surge events

- My Coast Posts of August 9th and April 12th 2024 Storms

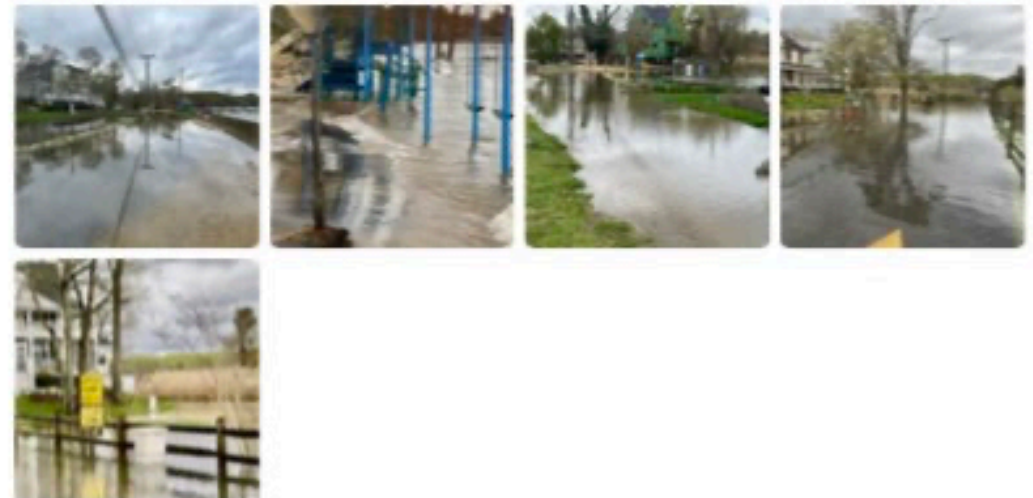
Highland Beach, MD

High Tide Flooding | August 9, 2024 at 4:23 pm



Highland Beach, MD

High Tide Flooding | April 12, 2024 at 8:01 am



Coastal Hazard – recorded tidal surge events

- My Coast Posts of January 10, 2024 Storm

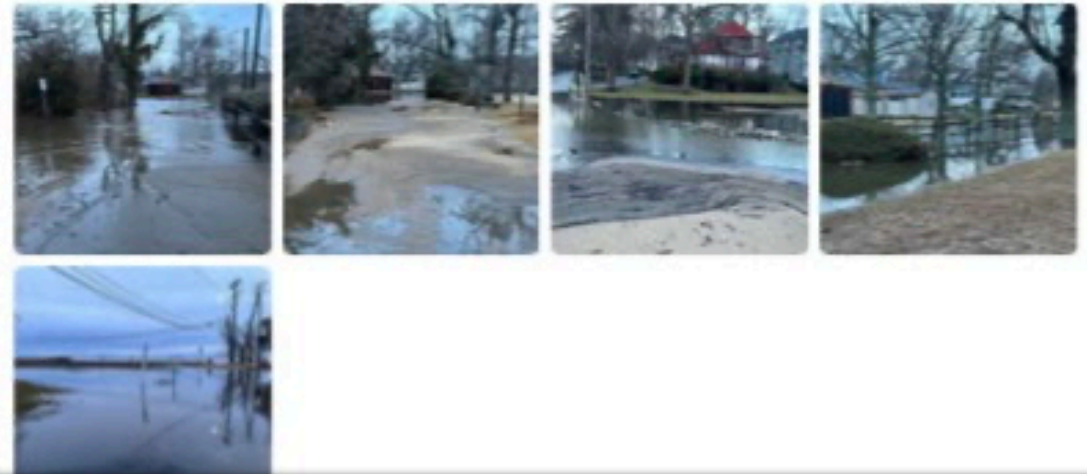
Highland Beach, MD

High Tide Flooding | January 10, 2024 at 7:40 am



Highland Beach, MD

High Tide Flooding | January 10, 2024 at 7:23 am



Coastal Hazard – recorded tidal surge events

- My Coast Posts of December 18th and November 22nd 2023 Storms

Highland Beach, MD

Storm Reporter | December 18, 2023 at 10:37 am



Highland Beach, MD

High Tide Flooding | November 22, 2023 at 7:36 am



Coastal Hazard – recorded tidal surge events

- My Coast Posts of September 24, 2023 Storm

Highland Beach, MD

High Tide Flooding | September 24, 2023 at 8:16 am



Highland Beach, MD

High Tide Flooding | September 24, 2023 at 8:09 am



Coastal Hazard – recorded tidal surge events

- December 18, 2023 Storm Pic 1



Coastal Hazard – recorded tidal surge events

- December 18, 2023 Storm Pic 2



Coastal Hazard – recorded tidal surge events

- December 18, 2023 Storm Pic 3



Coastal Hazard – recorded tidal surge events

- December 18, 2023 Storm Pic 4



Coastal Hazard – recorded tidal surge events

- January 10, 2024 Storm Pic 1



Coastal Hazard – recorded tidal surge events

- January 10, 2024 Storm Pic 2



Coastal Hazard – recorded tidal surge events

- January 10, 2024 Storm Pic 3



Coastal Hazard – recorded tidal surge events

- January 10, 2024 Storm Pic 4



Coastal Hazard – recorded tidal surge events

- January 10, 2024 Storm Pic 5



Coastal Hazard – recorded tidal surge events

- January 10, 2024 Storm Pic 6



**Coastal Hazard – recorded
tidal surge events**

- January 10, 2024 Storm Pic 7



Coastal Hazard – recorded tidal surge events

- April 12, 2024 Storm Pic 1



Coastal Hazard – recorded tidal surge events

- April 12, 2024 Storm Pic 2



Coastal Hazard – recorded tidal surge events

- April 12, 2024 Storm Pic 3



Coastal Hazard – recorded tidal surge events

- April 12, 2024 Storm Pic 4



Coastal Hazard – recorded tidal surge events

- April 12, 2024 Storm Pic 5



Coastal Hazard – recorded tidal surge events

- August 9, 2024 Storm – Pic 1



Coastal Hazard – recorded tidal surge events

- August 9, 2024 Storm – Pic 2



Coastal Hazard – recorded tidal surge events

- August 9, 2024 Storm – Pic 3



Coastal Hazard – recorded tidal surge events

- August 9, 2024 Storm – Pic 4



Coastal Hazard – recorded tidal surge events

- August 9, 2024 Storm – Pic 5



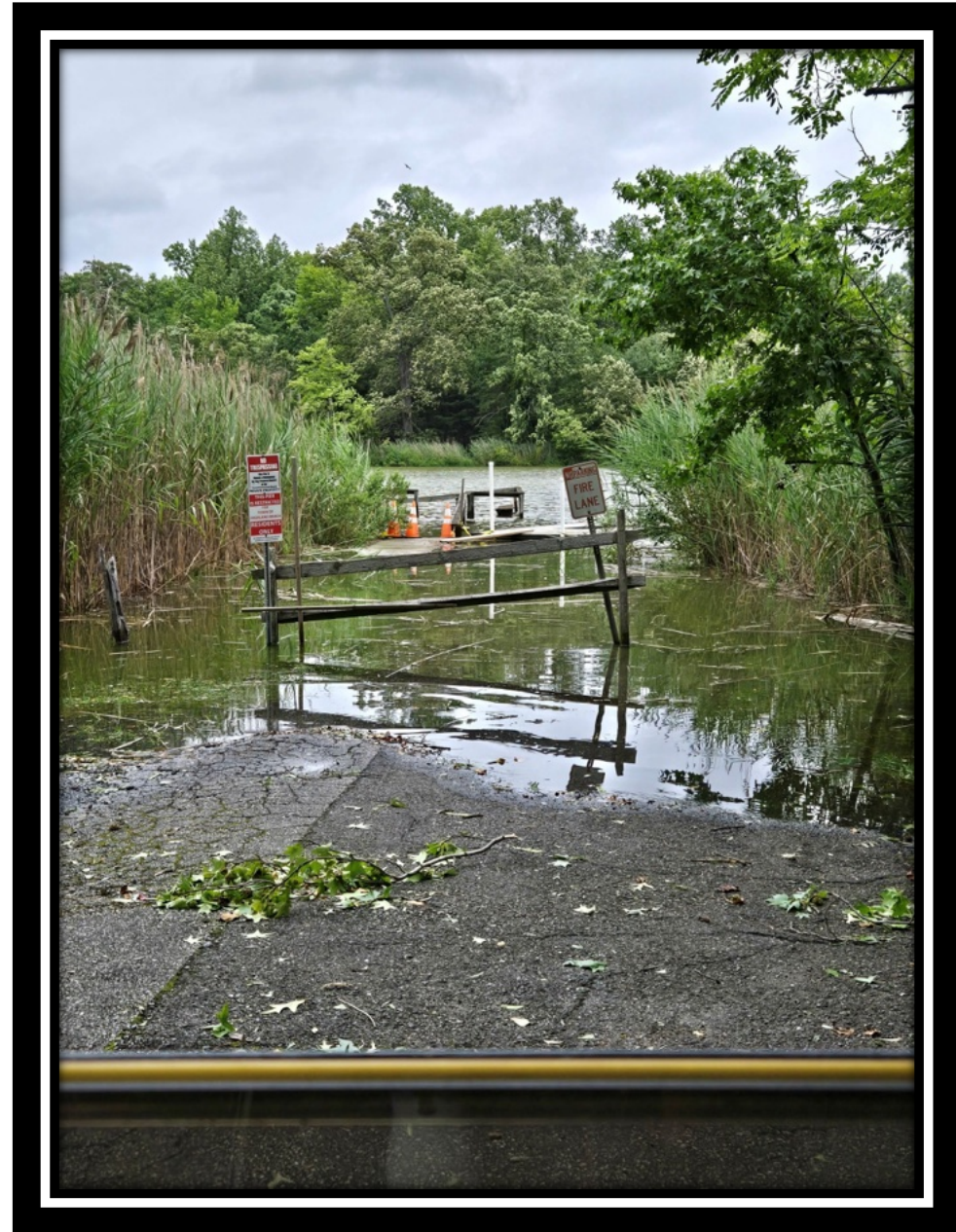
Coastal Hazard – recorded tidal surge events

- August 9, 2024 Storm – Pic 6



Coastal Hazard – recorded tidal surge events

- August 9, 2024 Storm - Pic 7



Coastal Hazard – recorded tidal surge events

- August 9, 2024 Storm – Pic 8



Coastal Hazard – recorded tidal surge events

- August 9, 2024 Storm – Pic 9



Coastal Hazard – recorded tidal surge events

- August 9, 2024 Storm – Pic 10



Coastal Hazard – recorded tidal surge events

- August 9, 2024 Storm – Pic 11



Coastal Hazard – recorded tidal surge events

- August 9, 2024 Storm – Pic 12



Coastal Hazard – recorded tidal surge events

- August 9, 2024 Storm – Pic 13



Coastal Hazard – recorded tidal surge events

- August 9, 2024 Storm – Pic 14



Coastal Hazard – recorded tidal surge events

- August 9, 2024 Storm – Pic 15



Coastal Hazard – recorded tidal surge events

- August 9, 2024 Storm – Pic 16



Coastal Hazard – recorded tidal surge events

- August 9, 2024 Storm – Pic 17



ATTACHMENT #3

Erosion



TOWN OF HIGHLAND BEACH

(INCORPORATED 1922)

3243 WALNUT DRIVE

Highland Beach, Maryland 21403

Telephone (443) 837-5184

MAYOR

Crystal Chissell

COMMISSIONER

Michele Fuller

G. William Hunter

Sheila Jeanne Murchison

Linda Holmes Newton

TREASURER

Ronald L. Stokes, Sr.

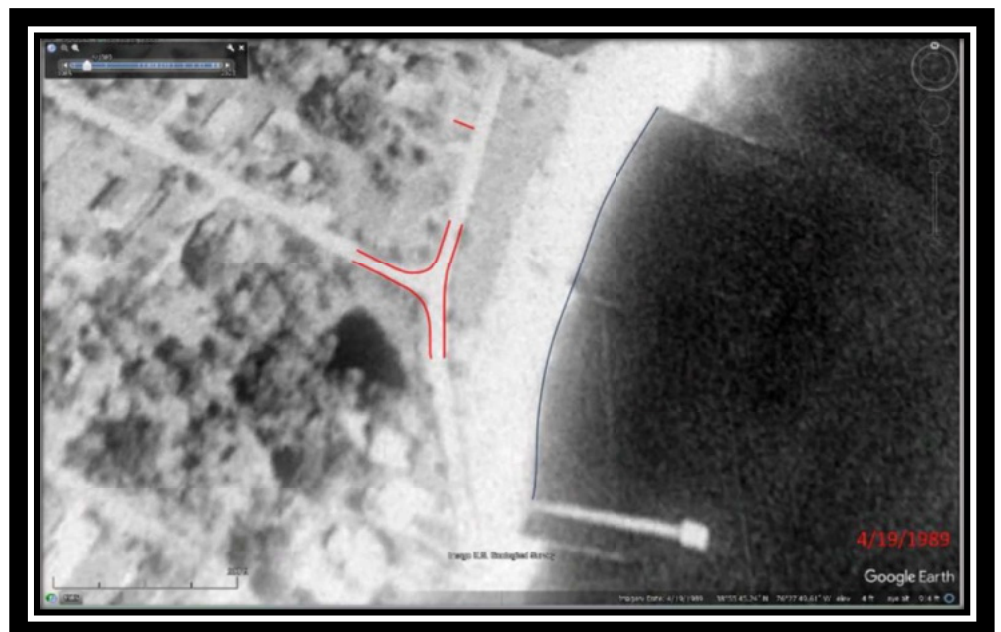
Erosion Recorded Damages Associated with Storm Surge and Erosion

AA County Hazard Mitigation Plan

- **Erosion – Recorded damages associated with storm surge and erosion**
 - **Highland Beach and Venice Beach**
- Due to climate change and rising sea levels, Highland Beach is particularly susceptible to erosion. This section includes Google satellite images showing the progression of erosion from 1989 through 2023, highlighting the ongoing impact on both Highland and Venice Beach.

Erosion – Recorded damages associated with storm surge and erosion

- April 19, 1989 - Highland Beach



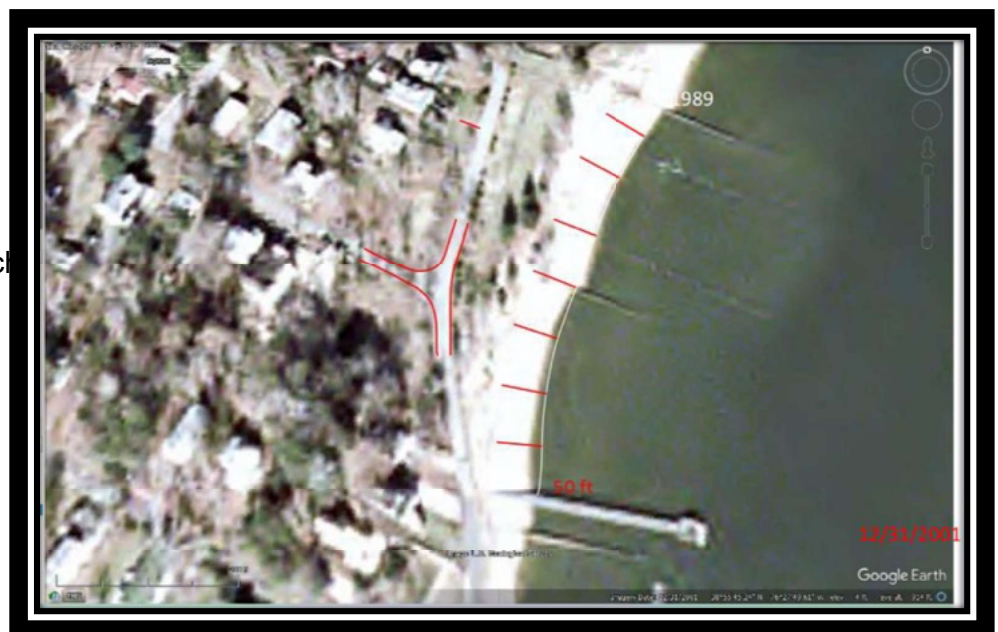
Erosion – Recorded damages associated with storm surge and erosion

- April 7, 1994 - Highland Beach



Erosion – Recorded damages associated with storm surge and erosion

- December 31 2001 - Highland Beach



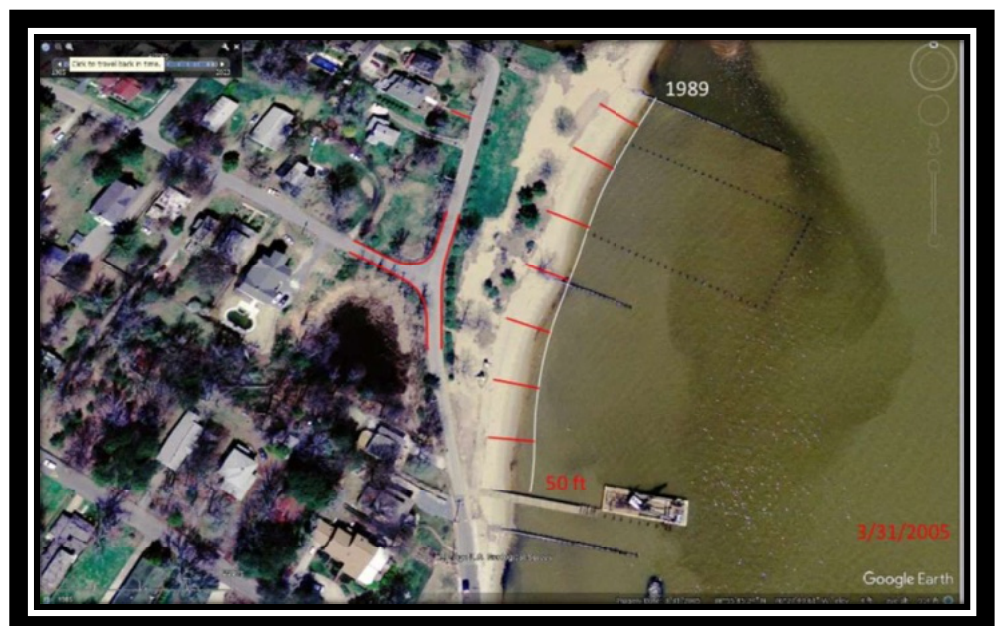
Erosion – Recorded damages associated with storm surge and erosion

- March 12, 2004 - Highland Beach



Erosion – Recorded damages associated with storm surge and erosion

- March 31, 2005 - Highland Beach



Erosion – Recorded damages associated with storm surge and erosion

- June 7, 2005 - Highland Beach



Erosion – Recorded damages associated with storm surge and erosion

- February 28, 2007 - Highland Beach



Erosion – Recorded damages associated with storm surge and erosion

- June 5, 2007 - Highland Beach



Erosion – Recorded damages associated with storm surge and erosion

- September 30, 2008 - Highland Beach



Erosion – Recorded damages associated with storm surge and erosion

- June 29, 2009 - Highland Beach



Erosion – Recorded damages associated with storm surge and erosion

- May 29, 2009 - Highland Beach



Erosion – Recorded damages associated with storm surge and erosion

- August 2010 - Highland Beach



Erosion – Recorded damages associated with storm surge and erosion

- November 2011 - Highland Beach



Erosion – Recorded damages associated with storm surge and erosion

- October 23, 2014 - Highland Beach



Erosion – Recorded damages associated with storm surge and erosion

- February 2017 - Highland Beach



Erosion – Recorded damages associated with storm surge and erosion

- October 2018 - Highland Beach



Erosion – Recorded damages associated with storm surge and erosion

- November 5, 2019 - Highland Beach



Erosion – Recorded damages associated with storm surge and erosion

- March 14, 2022 - Highland Beach



Erosion – Recorded damages associated with storm surge and erosion

- April 14, 2022 - Highland Beach



- July 2022 - Highland Beach



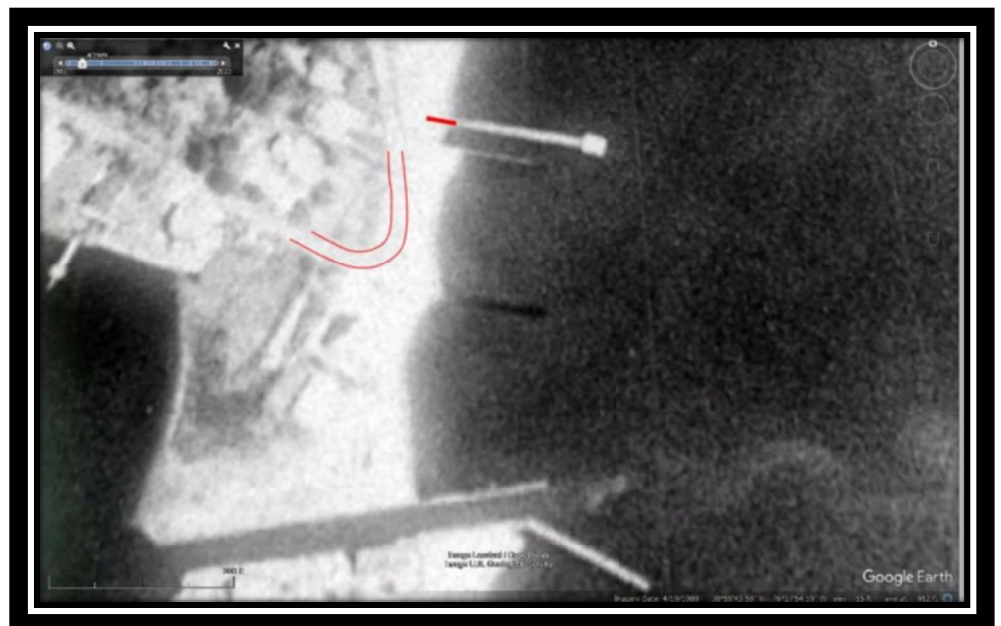
Erosion – Recorded damages associated with storm surge and erosion

- May 10, 2023 - Highland Beach



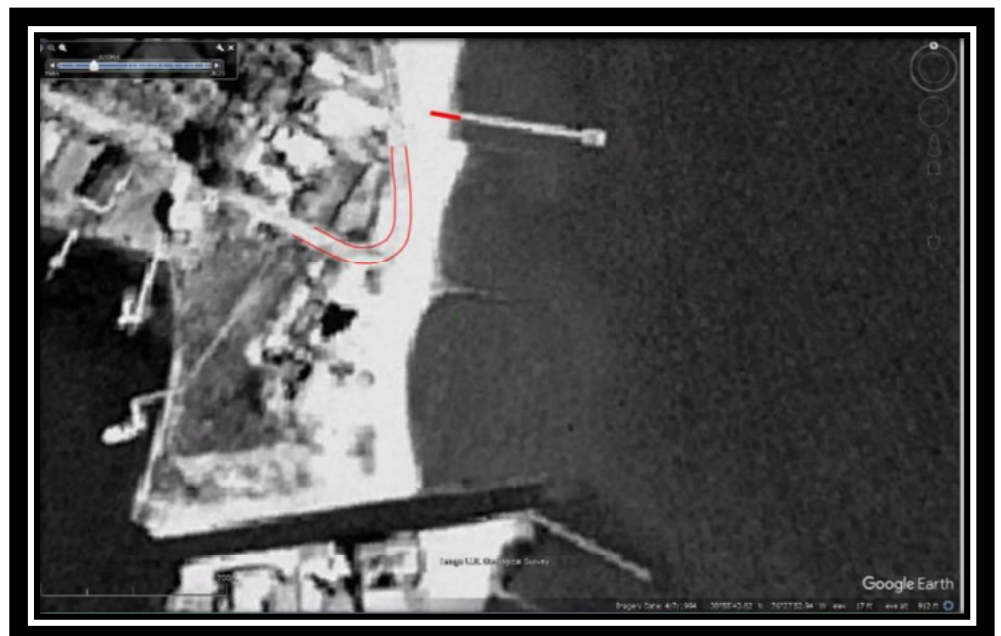
Erosion – Recorded damages associated with storm surge and erosion

- April 1989 – Venice Beach



Erosion – Recorded damages associated with storm surge and erosion

- April 1994 – Venice Beach



Erosion – Recorded damages associated with storm surge and erosion

- December 2002 – Venice Beach



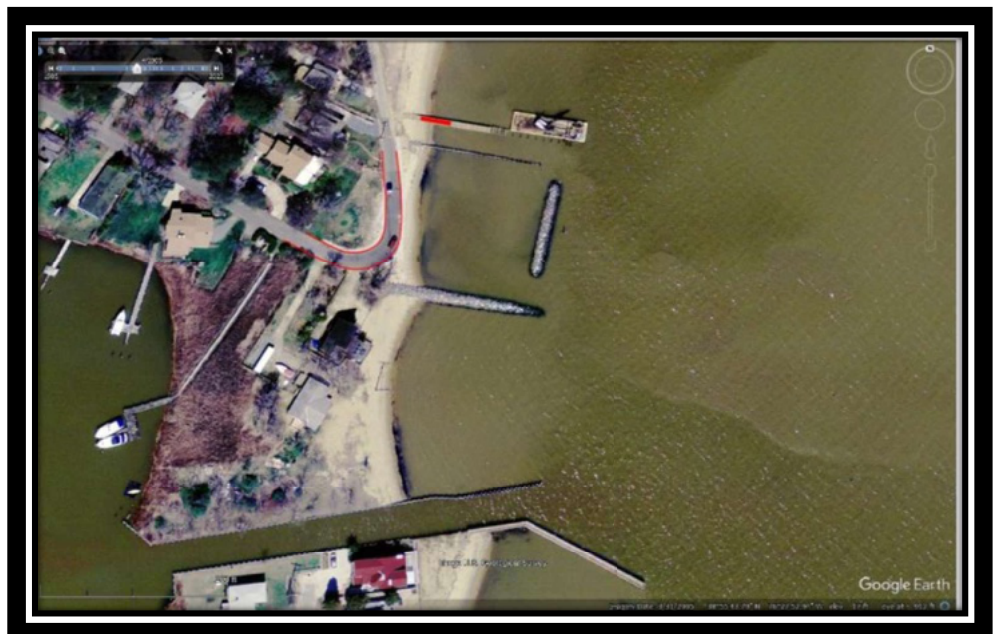
Erosion – Recorded damages associated with storm surge and erosion

- March 2004 – Venice Beach



Erosion – Recorded damages associated with storm surge and erosion

- April 2005 – Venice Beach



Erosion – Recorded damages associated with storm surge and erosion

- September 2005 – Venice Beach



Erosion – Recorded damages associated with storm surge and erosion

- April 2007 – Venice Beach



Erosion – Recorded damages associated with storm surge and erosion

- September 2007– Venice Beach



Erosion – Recorded damages associated with storm surge and erosion

- October 2008 – Venice Beach



Erosion – Recorded damages associated with storm surge and erosion

- October 2009 – Venice Beach



Erosion – Recorded damages associated with storm surge and erosion

- October 2010 – Venice Beach



Erosion – Recorded damages associated with storm surge and erosion

- November 2011– Venice Beach



Erosion – Recorded damages associated with storm surge and erosion

- October 2014 – Venice Beach



Erosion – Recorded damages associated with storm surge and erosion

- February 2017 – Venice Beach



Erosion – Recorded damages associated with storm surge and erosion

- October 2018 – Venice Beach



Erosion – Recorded damages associated with storm surge and erosion

- November 2019 – Venice Beach



Erosion – Recorded damages associated with storm surge and erosion

- March 2022 – Venice Beach



Erosion – Recorded damages associated with storm surge and erosion

- April 2022 – Venice Beach



Erosion – Recorded damages associated with storm surge and erosion

- July 2022 – Venice Beach



Erosion – Recorded damages associated with storm surge and erosion

- May 2023– Venice Beach



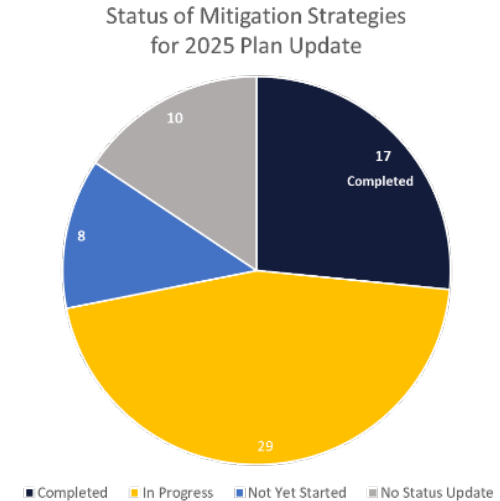
APPENDIX H

2018 Mitigation Action Update

2018 Mitigation Action Update

During the 2025 Plan Update, Anne Arundel County staff were able to provide status updates for the action items included in the 2018 Hazard Mitigation Plan. The following table includes the 2018 action items along with a detailed status update for 2025.

Projects "Complete": 17
 Projects "In Progress": 29
 Projects "Not Yet Started": 8
 No Status: 11
 Total Action Items Reviewed: 65



Action Item #	Description of Action Item in 2018 Plan	2025 Action Item Update (Updated as of 07/01/2024)	Status
1	Acquire repetitively flooded structures and non-repetitive loss structures	Policy decision that requires input from the Administration	Not Yet Started
2	Elevate repetitively flooded structures	-	Not Yet Started
3	Maintain public awareness and education campaigns for all hazards	The County Office of Emergency Management (OEM) has an all-hazards emergency preparedness outreach program that educates the public on how to prepare for emergencies and provides information on the risks and actions the public can take to prevent or reduce the loss of life or property from natural and manmade hazards that builds community resilience.	Complete
4	Educate residents about and promote the restraint of home heating oil tanks	Always an ongoing item. After a visit from FEMA in 2023, they identified specific properties with unrestrained tanks, and we contacted those homeowners with the appropriate information.	In Progress
5	Determine the adequacy and hazard resistance capability of existing shelters	The Office of Emergency Management conducts an annual review of the mass care shelter plan. This includes an on-site walk-through with partners who have a stake in the mass care shelter operations. Each shelter is evaluated to ensure the shelter is prepared if the need arises. Partners have the opportunity to communicate concerns during the on-site visit. Drills are also conducted to test the ARES and shelter operations radio system to ensure functionality. The annual inspections ensures the adequacy of the shelter to all hazards affecting the community. OEM continues to work with all local and State partners to	In Progress

Action Item #	Description of Action Item in 2018 Plan	2025 Action Item Update (Updated as of 07/01/2024)	Status
		improve upon interagency coordination and communications in support of mass care shelter operations.	
6	Develop evacuation plans, policies, and procedures	OEM is working to complete an updated evacuation plan for the county	In Progress
7	Develop coordinated interagency debris removal plan	The Debris Management Plan for the first pass (DPW/Bureau of Highways) and second pass (DPW/Bureau of Waste Management Services) cleanup of public property in accordance with FEMA guidelines is in place, along with a plan for the use of Department of Recreation and Park facilities in a large, debris-generating event.	Complete
8	Identify roles and responsibilities of County response agencies	The Office of Emergency Management continues to identify roles and responsibilities of county agencies to ensure that Anne Arundel county is prepared for all hazards. The Emergency Operations Plan (EOP) outlines the overarching organization of the County in response to emergencies and disasters affecting the community. The EOP identifies and assigns actions of the various local and State partners in the sixteen Emergency Support Function (ESF) annexes. Each of the sixteen ESFs has an assigned lead agency that is responsible for leading the response and recovery efforts on behalf of the County. OEM coordinates the overall response to emergencies and disasters affecting the community to ensure adequate resources are provided, and response and recovery efforts are carried out in a timely manner. OEM identifies the partner agencies that are needed to support the overall response and recovery effort for emergencies and disasters affecting the community.	Complete
9	Ensure and maintain sufficient redundancy for E911 service	The county maintains the Reserve Communications Center (RCC) in the OEM building.	In Progress
10	Promote use of new technologies to detect and suppress fires	The fire department utilizes MARVLIS, a GIS modeling platform to model the ideal locations for new/replacement fire stations, and well as the deployment of specialized resources. We also utilize FirstWatch software, which monitors all of our response data and provides real time alerts based on pre-programmed triggers.	In Progress
11	Enhance information base for future mitigation activities	OEM: The county works continuously to collect information from residents and mitigation programs to enhance the information base for future mitigation plans. The county uses a program called my coast that allows residents who sign up to upload flooding they see in their community. The app allows residents to upload pictures, descriptions and locations of flooding and storm damage. The data that is collected can be accessed by county departments and agencies for future mitigation purposes. The county additionally works with all county departments and agencies to collect data of hazards that affect the county to be used in future mitigation activities. The county will continue to collect and enhance data	In Progress

Action Item #	Description of Action Item in 2018 Plan	2025 Action Item Update (Updated as of 07/01/2024)	Status
		collection for future mitigation actions to ensure the county is best prepared for all hazards.	
12	Identify situations where sheltering in-place is appropriate	The Office of Emergency Management has and continues to identify situations in which the residents of Anne Arundel County would need to shelter in place. The Office of Emergency Management works alongside subject matter experts to assist in determining when sheltering in-place is the correct course of action for the residents of Anne Arundel county. OEM also uses the federal emergency management agencies best practices for shelter in place. These include winter storms, tornados, nuclear / radiological events, hurricanes, flooding / flash flooding, earthquakes and chemical hazards. OEM also continues to use an all-hazards emergency preparedness program that includes community presentations, website, Facebook and twitter and materials from FEMA, Red Cross and the Ready Campaign that includes information about many hazards to prepare for situations where sheltering in place is appropriate.	In Progress
13	Formalize hazard mitigation as factor in community development planning	"Plan2040 Volume 1: Anne Arundel County General Development Plan adopted May 3, 2021 Plan2040 Strategies NE1.3a, d, e Vol 1, page 77 Plan2040 Strategy NE3.1.e, Vol 1, page 81 Plan2040 Strategy NE4.5.c, Vol 1, page 87 Plan2040 Goal NE6, Vol 1, page 89 Plan2040 Strategy BE1.5.a, page 95 Plan2040 Strategy BE4.1.b & c, page 98 - c is complicated Plan2040 Strategy BE4.3.b, page 99 Plan2040 Strategies BE15.3.a & b page 120 Plan2040 Policy BE16.1, pages 120-121 Plan2040 Strategy HC10.1.f, page 137 Plan2040 Strategy HC10.2.c, page 138 Plan2040 Policy HC10.4, pages 138-139"	-
14	Encourage citizens and County personnel to take CERT course	The Office of Emergency Management has entered into a Memorandum of Agreement with AAACERT (Anne Arundel County and City of Annapolis Community Emergency Response Team, Inc). The MOU establishes a high level of readiness through the support and assistance of AAACERT, a volunteer organization, that will assist OEM with community preparedness, response and recovery efforts. A total of 415 individuals within the community have completed CERT basic training, of which 155 were high school students. CERT has also added 95 members since the last hazard mitigation update. The CERT program has continued to grow and become an integral part of the Office of Emergency management. Since 2018, AAACERT has become more integrated in the	Complete

Action Item #	Description of Action Item in 2018 Plan	2025 Action Item Update (Updated as of 07/01/2024)	Status
		response that OEM provides to the county during disasters by assisting as call takers during EOC activations; participating in training and exercise activities and events; assisting with the implementation of the mass care sheltering plan and the donations management plan; providing traffic control during mass vaccination clinics; providing CPR, first aid, and fire suppression training to residents and businesses within the community; and providing volunteer services at point of dispensing centers or commodity points of distribution.	
15	Ensure adequate plans, procedures, and capabilities to respond to a dam failure	The Office of Emergency Management has worked with the State and private dam owners to ensure that all dams in the county are properly prepared for any dam failure through updated emergency action plans. OEM updated the consolidated dams plan in order to make sure all dams in Anne Arundel County are in compliance with the most recent codes and regulations. This plan also ensures that all Dams emergency action plans are up to date and in a consolidated location if needed. Anne Arundel county has a total of 24 dams. Of all the dams in Anne Arundel County thirteen need EAPs.	Complete
16	Create a plan for cooling centers and shelters	The Office of Emergency Management (OEM) has developed an extreme temperature plan that identifies the actions the County will take during extreme temperature events with the activation of cooling and warming centers. This plan outlines how OEM coordinates with local partners to provide cooling and warming relief to residents. When certain temperatures are reached, the county opens cooling relief locations at libraries, police stations and senior activity centers. All facilities are accessible and have air conditioning, water, and restroom facilities. For individuals who need cooling relief outside of normal hours OEM partners with Crisis response to assist individuals. OEM continues to look for ways to improve upon the operational plan that best assists residents during extreme temperature events.	Complete
17	Create and build upon cooperative relationships with news media outlets for distributing information about All Hazards and future HMP updates	Completed and ongoing, since the 2018 update. OEM has and will continue to build upon cooperative relationships with news media outlets for distributing information about all hazards and for future hazard mitigation plans updates. OEM uses press releases to share information to media outlets in a direct way.	Complete
18	Promote use of NOAA "All Hazards" radios for early warning and post-event information to critical facilities	Completed and ongoing, OEM continues to use outreach to promote the use of NOAA "all hazards" radios for early warning and post-event information to critical facilities.	Complete
19	Research and evaluate hazards and data needs for the next iteration of the HMP	The County through the 2025 hazard mitigation plan update has re-evaluated all hazards of concern. Through the update of the plan OEM has continued to survey residents regarding which hazards they see as most important to focus on. The county continues to use data collected from past hazards to research	In Progress

Action Item #	Description of Action Item in 2018 Plan	2025 Action Item Update (Updated as of 07/01/2024)	Status
		and evaluate what hazards affect the county the most to more successfully mitigate them in the future.	
20	Increase use of insurance coverage	Ongoing, no change.	In Progress
21	Identify and protect County historic assets	The Cultural Resources Section in OPZ continues to document resources and add to the inventory, with a particular focus on resources endangered by coastal erosion/sea level rise. In 2018, the Cultural Resources Section, in partnership with Anne Arundel County Trust for Preservation and funded by an MHT Hazard Mitigation grant, conducted an intensive study to identify endangered archaeological sites and historic structures within coastal and riverine floodplains in Shady Side, Deale, Pasadena, Laurel, and Jessup. This study included an assessment of documented sites, as well as identified potential "new" cultural sites/structures that may require documentation, and determined which sites were significant and higher priority for mitigation/treatment/documentation. This document provides recommendations for protection measures. The recent Sea Level Rise Plan update (2022-2023) included a broad overlook of historic assets County-wide and a closer look at Region 9 endangered assets and identified objectives for increasing protections for cultural resources. The Cultural Resources Section continues to strive to document and flag sites of concern, but there are limited resources for the comprehensive survey/documentation/salvage excavation required to address many of these endangered sites.	-
22	Conduct fire study using Geographical Information System (GIS)	The department is currently undergoing a Standards of Coverage/Community Risk Assessment/Staffing Evaluation through Emergency Services Consulting International (ESCI).	In Progress
23	Create a plan for warming centers and shelters	Crofton High School was added to the list of shelters in the Mass Care Sheltering Plan May 2022. Shelters with the capability of expanding to support increased power needs for mass care shelter operations are designated as primary shelters and include Annapolis, Severna Park, and Crofton High schools. OEM hosts annual site inspections with partner agencies for ADA compliance, health and childcare assessments, and for logistics/set up purposes. Shelter selection is situational dependent based on the capacity, location, and type of incident that occurs. Warming and cooling centers has transitioned from Police Department District Stations to a standalone faith-based facility.	In Progress
24	Create cooperative relationships with news outlets for distributing information about winter storms	Since 2018 the office of emergency management has continued to work towards providing residents with the best way to distribute information regarding winter storms to provide them with the most up to date hazard information. Currently	Complete

Action Item #	Description of Action Item in 2018 Plan	2025 Action Item Update (Updated as of 07/01/2024)	Status
		the main source of communication that OEM uses to talk with news outlets is through press releases. OEMs will use press releases to make news outlets aware of winter storm information such as road closures, potential hazards, incoming storms and widespread power outages.	
25	Establish a relationship with BGE to reduce power outages	The Office of Emergency Management has improved its partnership with Baltimore Gas and Electric (BGE) to facilitate our preparedness to emergencies impacting the county and assist with response and recovery efforts. BGE provides an EOC rep to assist with providing updates on power outages and downed power lines; and in prioritizing the restoration of power services to critical facilities and identified medical care facilities. During this exchange of information, the county is able to update BGE on the current conditions of the county and identify any needs that are specific to the restoration of power within the community. This provides BGE and the county with the ability to communicate the immediate life safety needs, receive updates on power outages and restoration work, and identify alternative strategies that best meets the needs of the community.	Complete
26	Implement a system to provide portable generators for water treatment and distribution facilities and shelters	-	Not Yet Started
27	Existing enforcement plan for mandatory water rationing	The fire department would implement as needed based on info from DPW Utility Operations that water levels were below normal (i.e., drought conditions exist).	In Progress
28	Identify environmentally sensitive areas for acquisition by the County	Policy decision that requires input from the Administration	Not Yet Started
29	Identify wetland sites for mitigation banking and establish a County wetland bank	Policy decision that requires input from the Administration	Not Yet Started
30	Enforce floodplain regulations	We continue to enforce floodplain regulations that exceed FEMA standards and participate in NFIP.	In Progress
31	Use off-site drainage fees, Critical Area, and Tree Bill Reforestation fees to acquire mitigation sites	CIP established for developer contributions toward reforestation (managed by I&P)	In Progress
32	Maintain the existing strategy to revise development regulations to require undisturbed buffers along upland streams	§ 17-6-403. Streams. Development may not occur within a stream bed or within a 100-foot non-disturbance stream buffer. CRP.	-
33	Identify preservation areas and establish growth boundaries	Development Policy Areas were identified in the Plan2040, the County's GDP, updated May 2021.	-
34	Begin the process of integrating natural hazard mitigation with identification and	The Cultural Resources Section participated in past efforts to update the COOP, participated in the Risk Support Functions committees for the drafting of a Long Term Recovery plan, as well as spearheaded the recent SLR plan update in	-

Action Item #	Description of Action Item in 2018 Plan	2025 Action Item Update (Updated as of 07/01/2024)	Status
	preservation of historic and cultural resources.	order to ensure that Cultural Resources are a consideration in the development of these plans. They routinely raise awareness of sea level rise's endangerment to resources and incorporate recommendations for hazard mitigation planning in many of their public outreach efforts. Continued interdepartmental coordination that includes the Cultural Resources Section is key to ensuring that this strategy can be executed.	
35	Continue the process of integrating considerations of sea level rise into all aspects of hazard mitigation, risk assessment and planning. Initiate more detailed risk assessments to determine the potential losses related to this hazard.	Plan2040 is the County's first general development plan to include goals, policies, and strategies related to Climate Change. See page 46 in Plan2040 Volume I.	In Progress
36	Update and adopt local Emergency Operations Plan	The Office of Emergency Management is currently conducting an update of the local emergency operations plan (EOP). OEM has conducted workshops with each of the departments and agencies that are identified in each respective ESF function throughout the 2018 EOP. During each workshop all county departments and agencies that have roles in that ESF have the ability to comment and make changes to ensure that each ESF is up to date and the roles and responsibilities are defined clearly and accurately in each. OEM is currently in the process of updating the full plan with changes identified through the workshop and updates since the last EOP was finalized in 2019. OEM will continue to work with all county agencies and departments to ensure the EOP is up to date and is best suited to help the country respond to all disasters in the county.	In Progress
37	Adopt future updates of International Business Code	Adopted the 2021 Editions of the ICC Codes effective June 23, 2024, including Appendix G Flood-Resistant Construction. Will continue to adopt the latest editions of Codes as the State adopts them.	In Progress
38	Cape St. Claire-Stormwater Runoff Controls (Project #D381800)	Project Complete	Complete
39	Assure back-up power source at Public Shelters (Project #C541200)	-	-
40	Shoreline Erosion Control (Project # P468700)	Remains an ongoing activity	In Progress
41	Shipley's Choice Dam Rehab (Project #Q543001)	Project Complete	Complete
42	Emergency Storm Drain Measures (Project #B551700)	-	Not Yet Started

Action Item #	Description of Action Item in 2018 Plan	2025 Action Item Update (Updated as of 07/01/2024)	Status
43	Multiple Storm Drains: Storm Drainage Stormwater Management Infrastructure (Project #B551800)	Remains an ongoing activity	In Progress
44	Harmans Road Culvert replacement (Project #D515600)	Project Complete	Complete
45	Conduct tabletop, functional, and full-scale disaster exercises	The Office of Emergency Management has conducted multiple tabletop, functional and full-scale exercises since the last 2018 hazard mitigation update. OEM conducts multiple exercises each year with county and non-county partners to strengthen and improve the county's response, recovery and preparedness to all hazards. The training and exercise unit is in charge of scheduling and planning all exercises and has a training and exercise calendar that outlines all exercises that are planned for the year. There have been two full scale exercises since the last update to the hazard mitigation plan. These include a mass care shelter cot exercise and Operation chilly pepper.	In Progress
46	Increase public awareness on natural hazards affecting the county and actions the public can take to mitigate risk	OEM continues to partner with OPZ and other local and State stakeholders to educate the public on the risks and hazards and how to prepare for the types of emergencies that affect their community. These efforts will continue as OEM works with our partners and the public on the Hazard Mitigation Plan 2025 update. Outreach and input from the public is expected to take place during 2024 and 2025.	In Progress
47	Fort Smallwood Shore Restoration (CIP P468700)	-	-
48	Certified Climate Change Professional (CC-P) Credential	OPZ has 11 staff members that have completed the Climate Academy coursework. Three staff pursued their CC-P but let it lapse due to the rigorous certification maintenance requirements. OPZ has at least six additional staff who are interested in completing the coursework.	In Progress
49	Build Community Resilience	Develop the necessary knowledge, skills, and capabilities to effectively prepare for, mitigate, respond to, and recover from emergencies and disasters affecting the County.	In Progress
50	Climate Change Action Plan	In Volume I of Plan2040 on page 121, there is a strategy that states, "Develop and implement a Climate Action Plan for Anne Arundel County that includes an evaluation of greenhouse gas emissions and will provide detailed recommended actions to address adaptation and mitigation actions." The lead agencies for that effort are listed as the County Executive's Office, DPW, and OPZ with support coming from OOT, I&P, DOH, and OEM. It is identified as a short term strategy.	Not Yet Started
51	Long-term critical infrastructure vulnerability reduction	Varies depending on infrastructure type.	In Progress

Action Item #	Description of Action Item in 2018 Plan	2025 Action Item Update (Updated as of 07/01/2024)	Status
52	NWS StormReady program	Since 2018 the Office of Emergency Management (OEM) has completed all the necessary qualifications to become officially storm ready certified through 2028. To become a storm ready county, OEM established a 24 hour warning point public alert system; ensures continuous monitoring through 911 dispatch and the Emergency Operations Center (EOC); established more than one method to receive severe weather warnings and forecasts to alert the public; and promoted the importance of public readiness through community seminars. Lastly, OEM developed a formal hazardous weather plan that includes training severe weather spotters and holding emergency exercises.	Complete
53	Mitigation actions and project progress report	Complete.	In Progress
54	Hazard Mitigation Planner (new County position)	The county did not create a new county position for hazard mitigation planning. The county has no plans currently to complete this action due to cost reasons.	Not Yet Started
55	Update General Development Plan, Plan 2040	Plan 2040 was adopted	Complete
56	Shoreline Restoration	BWPR provides property tax incentives for the installation of living shorelines, as well as grants for the installation of living shorelines on HOA properties.	In Progress
57	Adopt Hazard Mitigation legislation	The county has since the 2018 hazard mitigation plan update and will continue to consider future legislation that limits new construction, substantial improvements, and future development in high risk and hazard prone areas within the county.	In Progress
58	Acquire repetitively flooded structures and non-repetitive loss structures	The BWPR program for acquiring repetitively flooded structures was successful, but is currently on hold.	Complete
59	Facilitate the elevation of repetitively flooded structures	-	-
60	Maintain local capability to respond to natural hazards	DPW participates in COOP Plan updates	In Progress
61	IPAWS certification	The Office of Emergency Management has completed steps to become IPAWS certified. In order to be fully certified, OEM completed IPAWS web based training offered through FEMAs independent study courses. OEM obtained compatible IPAWS software to be able to send messages to residents of the county. Next, OEM applied for a memorandum of agreement with FEMA that will govern interoperability and security across emergency response organizations and systems. Each MOA is tailored to the sponsoring organization and their interoperable software system. Lastly, OEM applied for public alerting permissions.	Complete
62	Enforce local floodplain ordinance	We continue to enforce floodplain regulations that exceed FEMA standards and participate in NFIP. CAV Report provided.	In Progress

Action Item #	Description of Action Item in 2018 Plan	2025 Action Item Update (Updated as of 07/01/2024)	Status
TOWN OF HIGHLAND BEACH			
1	Review Emergency Operations Plan annually	-	-
2	Implement an awareness campaign for residents	-	-
3	Abide by and enforce floodplain regulations of Anne Arundel County to ensure on-going participation in NFIP	-	-

APPENDIX I

Database of Community Lifelines

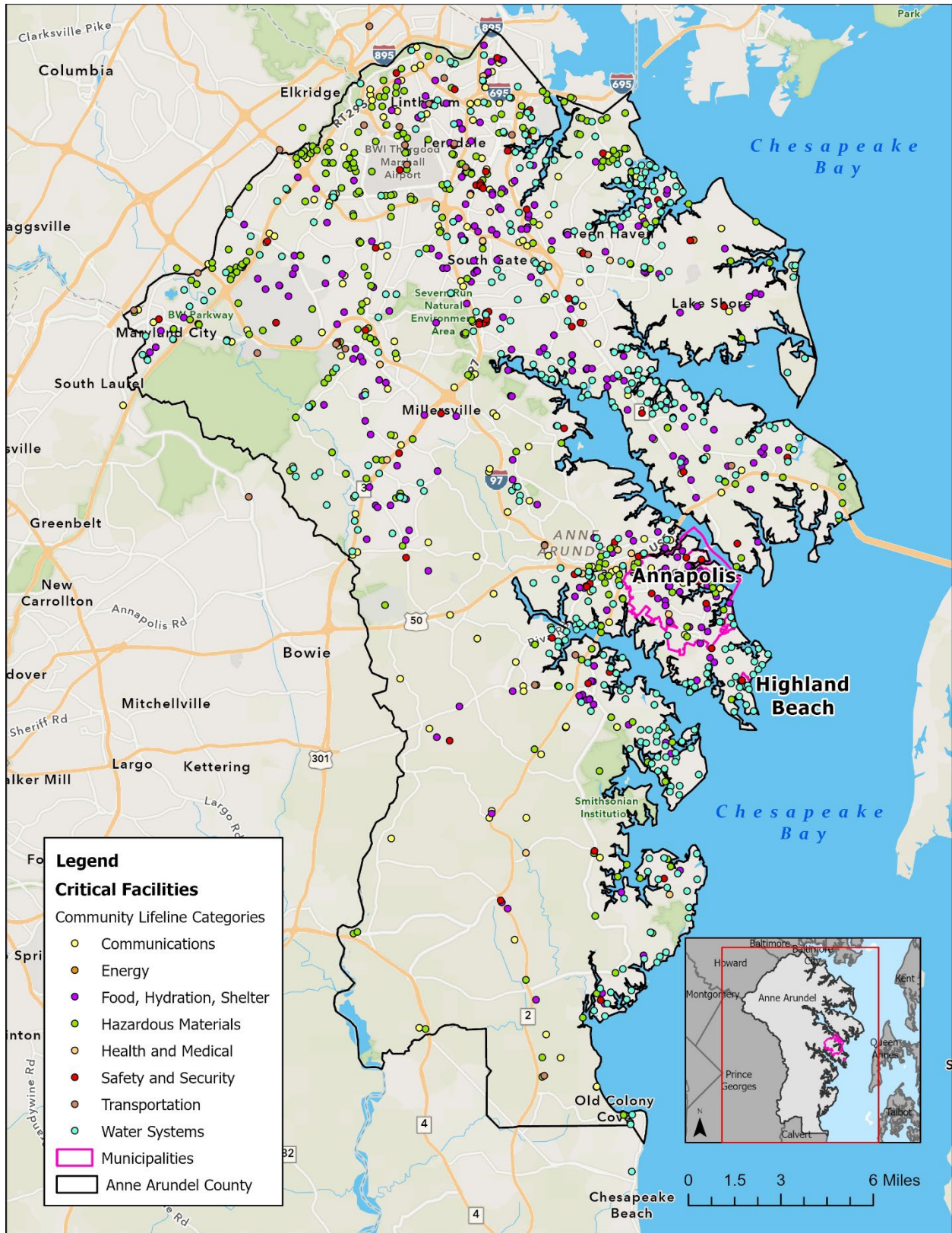
Anne Arundel County's Community Lifeline Database includes critical facilities as well as the County's essential facilities. The County's essential facilities, a sub-section of this database, are included on *Table 1.1-2 Anne Arundel County Critical Facilities* in Section 1.4 County Assets. Essential facilities include Hospitals, Fire Stations, High Schools (shelters), Police Stations, Tipton Airport, and the EOC.

2025 Anne Arundel County Critical Facilities by Community Lifeline		
COMMUNITY LIFELINE	FACILITY TYPE	NUMBER OF FACILITIES
Communications	EOC	1
	Telecommunication Towers	173
Safety and Security	Fire & EMS	40
	Police	7
	Government (County)	29
	Town Hall	1
Food, Hydration, Shelter	Schools	219 (80 Elementary, 19 Middle, 12 High, 72 Private, 31 Special Education Centers, 5 Colleges)
	Emergency Shelters	Annapolis High, Severn Park High, Crofton High, Northeast High, Southern High, Severn Park High, and Old Mill High (eff 9/2028)
	Warming & Cooling Centers	26 (15 Libraries, 4 Polices Stations, 7 Senior Centers)
Health and Medical	Hospitals	2
	Health Centers	17
Energy	Solar Panels	9
Transportation	Roads Operations	7
	Airport (Public)	3
	Train Stations	15 (7 Light Rail Stations, 8 MARC Stations)
Hazardous Materials	Fixed HazMat Storage Sites	332
Water Systems	Sewer Pump Stations	287
	Water Pump Stations	19
	Wastewater Treatment Plants	12
	Water Treatment Plants	13
	Water Storage Tanks	38
TOTAL CRITICAL FACILITIES:		1,296

Please contact the Office of Emergency Management for the complete geodatabase of all community lifelines and critical facilities in the county.

Information included in the geodatabase for each facility:

- Community Lifeline
- Facility Type
- Facility Category
- Feature Name
- Address, City, Zip Code
- SFHA (Y/N)?
- In 1% Depth Grid (Y/N)?
 - 1% Flood Depth
- Hurricane Storm Surge Category
- SLR Scenario
- Erosion (Y/N)?
- Dam Inundation Area
- Wildland Urban Interface (Y/N)?
- Owner
- Year Built
- Improvement Value (\$)



APPENDIX J
Plan Review Tool

Local Mitigation Plan Review Tool

Cover Page

The Local Mitigation Plan Review Tool (PRT) demonstrates how the local mitigation plan meets the regulation in 44 CFR § 201.6 and offers states and FEMA Mitigation Planners an opportunity to provide feedback to the local governments, including special districts.

1. The Multi-Jurisdictional Summary Sheet is a worksheet that is used to document how each jurisdiction met the requirements of the plan elements (Planning Process; Risk Assessment; Mitigation Strategy; Plan Maintenance; Plan Update; and Plan Adoption).
2. The Plan Review Checklist summarizes FEMA's evaluation of whether the plan has addressed all requirements.

For greater clarification of the elements in the Plan Review Checklist, please see Section 4 of this guide. Definitions of the terms and phrases used in the PRT can be found in Appendix E of this guide.

	Plan Information
Jurisdiction(s)	Anne Arundel County, Highland Beach
Title of Plan	Anne Arundel County Hazard Mitigation Plan 2025 Update.
New Plan or Update	Update
Single- or Multi-Jurisdiction	Multi-Jurisdiction
Date of Plan	April 2025
Local Point of Contact	

	Plan Information
Title	Kerry Topovski
Agency	Anne Arundel County Office of Emergency Management
Address	7480 Baltimore Annapolis Blvd., Glen Burnie, MD 21061
Phone Number	410 222 0612
Email	emtopo22@aacountymy.org

	Additional Point of Contact
Title	Click or tap here to enter text.
Agency	Click or tap here to enter text.
Address	Click or tap here to enter text.
Phone Number	Click or tap here to enter text.
Email	Click or tap here to enter text.

	Review Information
State Review	
State Reviewer(s) and Title	
State Review Date	
FEMA Review	
FEMA Reviewer(s) and Title	Click or tap here to enter text.
Date Received in FEMA Region	Click or tap to enter a date.
Plan Not Approved	Click or tap to enter a date.
Plan Approvable Pending Adoption	Click or tap to enter a date.
Plan Approved	Click or tap to enter a date.

Multi-Jurisdictional Summary Sheet

In the boxes for each element, mark if the element is met (Y) or not met (N).

#	Jurisdiction Name	A. Plannin g Proces s	B. Risk Assess ment	C. Mitigati on Strateg y	D. Plan Mainte nance	E. Plan Update	F. Plan Adopti on	G. State Requir ements
1	Anne Arundel County	X	X	X	X	X		
2	Highland Beach	X	X	X	X	X		
3								
4								
5								
6								
7								
8								
9								
10								

Plan Review Checklist

The Plan Review Checklist is completed by FEMA. States and local governments are encouraged, but not required, to use the PRT as a checklist to ensure all requirements have been met prior to submitting the plan for review and approval. The purpose of the checklist is to identify the location of relevant or applicable content in the plan by element/sub-element and to determine if each requirement has been “met” or “not met.” FEMA completes the “required revisions” summary at the bottom of each element to clearly explain the revisions that are required for plan approval. Required revisions must be explained for each plan sub-element that is “not met.” Sub-elements in each summary should be referenced using the appropriate numbers (A1, B3, etc.), where applicable. Requirements for each element and sub-element are described in detail in Section 4: Local Plan Requirements of this guide.

Plan updates must include information from the current planning process.

If some elements of the plan do not require an update, due to minimal or no changes between updates, the plan must document the reasons for that.

Multi-jurisdictional elements must cover information unique to all participating jurisdictions.

Element A: Planning Process

Element A Requirements	Location in Plan (section and/or page number)	Met / Not Met
A1. Does the plan document the planning process, including how it was prepared and who was involved in the process for each jurisdiction? (Requirement 44 CFR § 201.6(c)(1))		
A1-a. Does the plan document how the plan was prepared, including the schedule or time frame and activities that made up the plan’s development, as well as who was involved?	Section 2: Planning Process & Appendix A/C/D/F	Met

Element A Requirements	Location in Plan (section and/or page number)	Met / Not Met
A1-b. Does the plan list the jurisdiction(s) participating in the plan that seek approval, and describe how they participated in the planning process?	Section 2: Planning Process Section, Subsection 2.7 Highland Beach Planning and Participation, Subsection 4.7: Capability Findings, & Appendix A/F/G	Met
A2. Does the plan document an opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development as well as businesses, academia, and other private and non-profit interests to be involved in the planning process? (Requirement 44 CFR § 201.6(b)(2))		
A2-a. Does the plan identify all stakeholders involved or given an opportunity to be involved in the planning process, and how each stakeholder was presented with this opportunity?	Section 2: Planning Process, Section 4.7: Capability Findings, & Appendix A/C/D/F	Met
A3. Does the plan document how the public was involved in the planning process during the drafting stage and prior to plan approval? (Requirement 44 CFR § 201.6(b)(1))		
A3-a. Does the plan document how the public was given the opportunity to be involved in the planning process and how their feedback was included in the plan?	Section 2: Planning Process & Appendix E/F Section 6.7 Continued Public Involvement	Met

Element A Requirements	Location in Plan (section and/or page number)	Met / Not Met
A4. Does the plan describe the review and incorporation of existing plans, studies, reports, and technical information? (Requirement 44 CFR § 201.6(b)(3))		
A4-a. Does the plan document what existing plans, studies, reports and technical information were reviewed for the development of the plan, as well as how they were incorporated into the document?	Section 2.7 Incorporation of Plan, Studies, and Participation Section 4.1 – 4.5	Met
Element A Required Revisions		

Element B: Risk Assessment

Element B Requirements	Location in Plan (section and/or page number)	Met / Not Met
B1. Does the plan include a description of the type, location, and extent of all natural hazards that can affect the jurisdiction? Does the plan also include information on previous occurrences of hazard events and on the probability of future hazard events? (Requirement 44 CFR § 201.6(c)(2)(i))		
B1-a. Does the plan describe all natural hazards that can affect the jurisdiction(s) in the planning area, and does it provide the rationale if omitting any natural hazards that are commonly recognized to affect the jurisdiction(s) in the planning area?	Section 3: Risk Assessment Subsection 1	Met
B1-b. Does the plan include information on the location of each identified hazard?	Section 3: Risk Assessment Subsection 2	Met

Element B Requirements	Location in Plan (section and/or page number)	Met / Not Met
B1-c. Does the plan describe the extent for each identified hazard?	Section 3: Risk Assessment Subsection 1 for each hazard	Met.
B1-d. Does the plan include the history of previous hazard events for each identified hazard?	Section 3: Risk Assessment Subsection 3 for each hazard	Met
B1-e. Does the plan include the probability of future events for each identified hazard? Does the plan describe the effects of future conditions, including climate change (e.g., long-term weather patterns, average temperature and sea levels), on the type, location and range of anticipated intensities of identified hazards?	Section 3: Risk Assessment Subsection 4 for each hazard	Met
B1-f. For participating jurisdictions in a multi-jurisdictional plan, does the plan describe any hazards that are unique to and/or vary from those affecting the overall planning area?	Risk Assessment Subsection 6 for each hazard	Met
B2. Does the plan include a summary of the jurisdiction's vulnerability and the impacts on the community from the identified hazards? Does this summary also address NFIP-insured structures that have been repetitively damaged by floods? (Requirement 44 CFR § 201.6(c)(2)(ii))		
B2-a. Does the plan provide an overall summary of each jurisdiction's vulnerability to the identified hazards?	Section 3: Risk Assessment Subsection 6 for each hazard	Met
B2-b. For each participating jurisdiction, does the plan describe the potential impacts of each of the identified hazards on each participating jurisdiction?	Section 3: Risk Assessment Subsection 6 for each hazard	Not Met

Element B Requirements	Location in Plan (section and/or page number)	Met / Not Met
B2-c. Does the plan address NFIP-insured structures within each jurisdiction that have been repetitively damaged by floods?	Section 3.3.1.5, NFIP Participation, 3.3.1.6 Rep Loss Properties, 3.3.1.7 Flood Hazards in Highland Beach, and Appendix G Section 4.6 Floodplain Management	Met.
Element B Required Revisions		
Required Revision:		

Element C: Mitigation Strategy

Element C Requirements	Location in Plan (section and/or page number)	Met / Not Met
C1. Does the plan document each participant's existing authorities, policies, programs and resources and its ability to expand on and improve these existing policies and programs? (Requirement 44 CFR § 201.6(c)(3))		
C1-a. Does the plan describe how the existing capabilities of each participant are available to support the mitigation strategy? Does this include a discussion of the existing building codes and land use and development ordinances or regulations?	Section 4.0: Capability Assessment. Subsection 2.8, 4.4, & 4.7	Met

Element C Requirements	Location in Plan (section and/or page number)	Met / Not Met
C1-b. Does the plan describe each participant's ability to expand and improve the identified capabilities to achieve mitigation?	Section 4.0: Capability Assessment.	Met.
C2. Does the plan address each jurisdiction's participation in the NFIP and continued compliance with NFIP requirements, as appropriate? (Requirement 44 CFR § 201.6(c)(3)(ii))		
C2-a. Does the plan contain a narrative description or a table/list of their participation activities?	Subsection 1.7, 2.4, & 2.7, Section 1.6.1 Region 3 Development Trends Analysis	Met
C3. Does the plan include goals to reduce/avoid long-term vulnerabilities to the identified hazards? (Requirement 44 CFR § 201.6(c)(3)(i))		
C3-a. Does the plan include goals to reduce the risk from the hazards identified in the plan?	Subsection 5.2: 2025 Goals and Objectives	Met
C4. Does the plan identify and analyze a comprehensive range of specific mitigation actions and projects for each jurisdiction being considered to reduce the effects of hazards, with emphasis on new and existing buildings and infrastructure? (Requirement 44 CFR § 201.6(c)(3)(ii))		
C4-a. Does the plan include an analysis of a comprehensive range of actions/projects that each jurisdiction considered to reduce the impacts of hazards identified in the risk assessment?	Section 5 - Subsection 5.4 New Mitigation Actions Appendix H	Met
C4-b. Does the plan include one or more action(s) per jurisdiction for each of the hazards as identified within the plan's risk assessment?	Section 5 - Subsection 5.4 New Mitigation Actions Appendix H	Met

Element C Requirements	Location in Plan (section and/or page number)	Met / Not Met
C5. Does the plan contain an action plan that describes how the actions identified will be prioritized (including a cost-benefit review), implemented, and administered by each jurisdiction? (Requirement 44 CFR § 201.6(c)(3)(iv)); (Requirement §201.6(c)(3)(iii))		
C5-a. Does the plan describe the criteria used for prioritizing actions?	Section 5 - Subsection 5.5 Prioritization of Mitigation Actions, Subsection 5.6 Integrating Mitigation into Existing Plans & Procedures Appendix H	Met
C5-b. Does the plan provide the position, office, department or agency responsible for implementing/administrating the identified mitigation actions, as well as potential funding sources and expected time frame?	Section 5 - Subsection 5.4 New Mitigation Actions, Subsection 5.8 Implementation Resources & Funding Opportunities Appendix H	Met
Element C Required Revisions		

Element D: Plan Maintenance

Element D Requirements	Location in Plan (section and/or page number)	Met / Not Met
D1. Is there discussion of how each community will continue public participation in the plan maintenance process? (Requirement 44 CFR § 201.6(c)(4)(iii))		
D1-a. Does the plan describe how communities will continue to seek future public participation after the plan has been approved?	Section 6 – Subsection 6.2: Method and Schedule & Subsection 6.7: Continued Public Involvement	Met.
D2. Is there a description of the method and schedule for keeping the plan current (monitoring, evaluating and updating the mitigation plan within a five-year cycle)? (Requirement 44 CFR § 201.6(c)(4)(i))		
D2-a. Does the plan describe the process that will be followed to track the progress/status of the mitigation actions identified within the Mitigation Strategy, along with when this process will occur and who will be responsible for the process?	Section 6: Plan Maintenance	Met
D2-b. Does the plan describe the process that will be followed to evaluate the plan for effectiveness? This process must identify the criteria that will be used to evaluate the information in the plan, along with when this process will occur and who will be responsible.	Section 6: Plan Maintenance	Met
D2-c. Does the plan describe the process that will be followed to update the plan, along with when this process will occur and who will be responsible for the process?	Section 6: Plan Maintenance	Met.

Element D Requirements	Location in Plan (section and/or page number)	Met / Not Met
D3. Does the plan describe a process by which each community will integrate the requirements of the mitigation plan into other planning mechanisms, such as comprehensive or capital improvement plans, when appropriate? (Requirement 44 CFR § 201.6(c)(4)(ii))		
D3-a. Does the plan describe the process the community will follow to integrate the ideas, information and strategy of the mitigation plan into other planning mechanisms?	Section 6: Plan Maintenance	Met.
D3-b. Does the plan identify the planning mechanisms for each plan participant into which the ideas, information and strategy from the mitigation plan may be integrated?	Section 6: Plan Maintenance	Met.
D3-c. For multi-jurisdictional plans, does the plan describe each participant's individual process for integrating information from the mitigation strategy into their identified planning mechanisms?	Section 6: Plan Maintenance	Met.
Element D Required Revisions		
Required Revision: 		

Element E: Plan Update

Element E Requirements	Location in Plan (section and/or page number)	Met / Not Met
E1. Was the plan revised to reflect changes in development? (Requirement 44 CFR § 201.6(d)(3))		
E1-a. Does the plan describe the changes in development that have occurred in hazard-prone areas that have increased or decreased each community's vulnerability since the previous plan was approved?	Section 1: Planning Process - Subsection 1.6, Future Land Use and Development Trends Section 1.6.1 Region 3 Development Trends Analysis	Met
E2. Was the plan revised to reflect changes in priorities and progress in local mitigation efforts? (Requirement 44 CFR § 201.6(d)(3))		
E2-a. Does the plan describe how it was revised due to changes in community priorities?	Subsection 1.8 Equity and Social Vulnerability (new section) Section 3.0 Risk Assessment – Addition of non-Natural Hazards Subsection 5.2 Changes in goals and Objectives	Met
E2-b. Does the plan include a status update for all mitigation actions identified in the previous mitigation plan?	Subsection 5.3 Status of 2018 Mitigation Actions	Met.

Element E Requirements	Location in Plan (section and/or page number)	Met / Not Met
E2-c. Does the plan describe how jurisdictions integrated the mitigation plan, when appropriate, into other planning mechanisms?	Section 2: Planning Process Section, Subsection 2.7 Highland Beach Planning and Participation, Subsection 4.7: Capability Findings, & Appendix A/F/G	Met.
Element E Required Revisions		
Required Revision: Click or tap here to enter text.		

Element F: Plan Adoption

Element F Requirements	Location in Plan (section and/or page number)	Met / Not Met
F1. For single-jurisdictional plans, has the governing body of the jurisdiction formally adopted the plan to be eligible for certain FEMA assistance? (Requirement 44 CFR § 201.6(c)(5))		
F1-a. Does the participant include documentation of adoption?	Section 7	Choose an item.
F2. For multi-jurisdictional plans, has the governing body of each jurisdiction officially adopted the plan to be eligible for certain FEMA assistance? (Requirement 44 CFR § 201.6(c)(5))		
F2-a. Did each participant adopt the plan and provide documentation of that adoption?	Section 7	Choose an item.

Element F Required Revisions		
Required Revision: Click or tap here to enter text.		

Element G: High Hazard Potential Dams

HHPD Requirements	Location in Plan (section and/or page number)	Met / Not Met
HHPD1. Did the plan describe the incorporation of existing plans, studies, reports and technical information for HHPDs?		
HHPD1-a. Does the plan describe how the local government worked with local dam owners and/or the state dam safety agency?	Subsection 3.3.3	Met
HHPD1-b. Does the plan incorporate information shared by the state and/or local dam owners?	Subsection 3.3.3	Met
HHPD2. Did the plan address HHPDs in the risk assessment?		
HHPD2-a. Does the plan describe the risks and vulnerabilities to and from HHPDs?	Subsection 3.3.3	Met
HHPD2-b. Does the plan document the limitations and describe how to address deficiencies?	Subsection 3.3.3	Met
HHPD3. Did the plan include mitigation goals to reduce long-term vulnerabilities from HHPDs?		
HHPD3-a. Does the plan address how to reduce vulnerabilities to and from HHPDs as part of its own goals or with other long-term strategies?	Subsection 3.3.3	Met

HHPD Requirements	Location in Plan (section and/or page number)	Met / Not Met
HHPD3-b. Does the plan link proposed actions to reducing long-term vulnerabilities that are consistent with its goals?	Subsection 3.3.3	Met
HHPD4-a. Did the plan include actions that address HHPDs and prioritize mitigation actions to reduce vulnerabilities from HHPDs?		
HHPD4-a. Does the plan describe specific actions to address HHPDs?	Subsection 3.3.3	Met
HHPD4-b. Does the plan describe the criteria used to prioritize actions related to HHPDs?	Subsection 3.3.3	Met
HHPD4-c. Does the plan identify the position, office, department or agency responsible for implementing and administering the action to mitigate hazards to or from HHPDs?	Subsection 3.3.3	Met
HHPD Required Revisions		
Required Revision: Click or tap here to enter text.		

Element H: Additional State Requirements (Optional)

Element H Requirements	Location in Plan (section and/or page number)	Met / Not Met
This space is for the State to include additional requirements.		
Click or tap here to enter text.	Click or tap here to enter text.	Met

APPENDIX K

Adoption Resolutions & FEMA
Approval Letter